



Vancouver Senate

THE SIXTH REGULAR MEETING OF THE VANCOUVER
SENATE
FOR THE 2017/2018 ACADEMIC YEAR

WEDNESDAY, 28 FEBRUARY 2018

6:00 P.M.

**ROOM 182, IRVING K. BARBER LEARNING CENTRE,
1961 EAST MALL**

1. Call to Order – Dr Santa Ono (information)
2. Senate Membership – Dr Kate Ross (information)

New Member:

Dr James Olson, Dean of the Faculty of Applied Science, to replace Dr James Olson, Dean *Pro Tem.* of the Faculty of Applied Science, effective 1 March 2018.

3. Minutes of the Meeting of 17 January 2017 – Dr Santa Ono (approval) (docket pages 4-20)
4. Business Arising from the Minutes – Dr Santa Ono (information)
5. Remarks from the Chair and Related Questions – Dr Santa Ono (information)
6. Shaping UBC's Next Century: The UBC Strategic Plan – Dr Santa Ono (approval) (docket pages 21-96)

The Chair of Senate calls for the following motion:

That Senate endorse the strategic plan.

7. Candidates for Degrees – Dr Santa Ono (approval)

The list as approved by the faculties of Graduate & Postdoctoral Studies and Medicine is available for advance inspection at the Senate Office, and will also be available at the meeting.

The Chair of Senate calls for the following motion:

That the candidates for degrees as recommended by the Faculty of Graduate and Postdoctoral Studies be granted the degrees for which they were recommended, effective February 2018, and that a committee comprised of the Registrar, the dean of the faculty,



and the Chair of the Vancouver Senate be empowered to make any necessary adjustments.

(2/3 majority required).

8. Academic Policy Committee – Dr Paul Harrison

Faculty of Graduate and Postdoctoral Studies Policies on the Supervision of Graduate Students and Membership in the Faculty of Graduate and Postdoctoral Studies (approval) (docket pages 70-74)

9. Admissions Committee – Prof. Carol Jaeger

- a) Bachelor of Dental Science, Dental Hygiene – Reinstatement of Admission of Direct-Entry Option (approval) (docket pages 75, 78-89)
- b) Master of Engineering Leadership and Master of Health Leadership and Policy – English Language Proficiency Standards (approval) (docket pages 75-76, 90-100)
- c) Master of Engineering Leadership and Master of Health Leadership and Policy – Transfer Credit (approval) (docket pages 76, 101-115)
- d) Master of Engineering – Changes in Admission Requirements and Transfer Credit Policy (approval) (docket pages 76, 116-122)
- e) Master of Science in Geophysics – Changes in Admission Rerequisites (approval) (docket pages 76-77, 123)
- f) Faculty of Land & Food Systems – Admissions (approval) (docket pages 77, 124-129)
- g) Memorandum of Agreement for Funding and Support of Doctoral Exchange Students between UBC and Southern University of Science and Technology (SUSTech) (approval) (docket pages 130, 132-142)
- h) Dual Degree Program Option – UBC Master of Management and Yale University Master of Management Studies (approval) (docket pages 130-131, 143-152)
- i) Enrolment Targets 2018-2019 (approval) (docket pages 131, 153-162)
- j) New Approach to Holistic Undergraduate Admissions – Calendar Changes on Admission (approval) (docket pages 163-210)

10. Agenda Committee – Mr Jakob Gattinger

2018-2019 Senate Meeting Schedule (information) (docket page 211)

11. Awards Committee – Dr Lawrence Burr

New and Revised Awards (approval) (docket page 212-217)

12. Joint Report of the Admissions and Curriculum Committees – Prof. Carol Jaeger and Dr Peter Marshall



- a) New Program: Bachelor of Science in Food and Resource Economics (approval) (docket page 218-287)
- b) New Program: Master of Science in Medical Physics (approval) (docket page 288-332)
- c) New Program: Doctor of Philosophy in Medical Physics (approval) (docket page 288-332)
- d) New Program: Master of Urban Forestry Leadership (approval) (docket page 333-365)

13. Curriculum Committee – Dr Peter Marshall

- a) Curriculum Materials from the Faculties of Applied Science, Arts, Commerce & Business Administration, Education, Forestry, Graduate & Postdoctoral Studies, and Land & Food Systems (approval) (docket page 366-505)
- b) Tec de Monterrey Certificates (information) (docket page 505-522)

14. Nominating Committee – Dr Richard Tees

Appointments to the Ad Hoc Committee on Academic Diversity and Inclusivity (approval) (docket page 523)

15. Report from the Registrar – Dr Kate Ross

- a) 2018-2019 Term Dates (information) (docket pages 524-525)
- b) Confirmation of Email Consent to Nominating Committee Recommendations (information) (docket pages 526)

16. Other Business

Submission from the Student Members of Senate on their Priorities: Senate 2020 (information) (docket pages 527-541) – Mr Kevin Doering



VANCOUVER SENATE

MINUTES OF 17 JANUARY 2018

DRAFT

Attendance

Present: Dr S. Ono (Chair), Dr K Ross (Secretary), Dr. P. Adebar, Mr. T. Ahmed, Dean G. Averill, Ms J. Booth, Ms S. Brar, Dr. A. Collier, Dean M. Coughtrie, Dean C. Dauvergne, Dr. A. Dulay, Dr. G. Faulker, Mr. B. Fischer, Dr. A. Fisher, Mr. F. Gallegos, Dr. J. Gattinger, Dr. J. Gilbert, Ms. A. Glinsbockel, Dr. C. Godwin, Chancellor L. Gordon, Dr. J. Greenman, Dr. V. Griess, Ms. M. Grist, Ms. M. Hamid, Dr. P. Harrison, Mr. M. Holmes, Dr. A. Ivanov, Prof. C. Jaeger, Dr. A. Kindler, Dr. M. Koehoorn, Dr. C. Krebs, Dr. M. Kuus, Dr. K. Lo, Dr. P. Loewen, Dr. D. MacDonald, Ms. A. MacDougall, Dean M. MacDougall, Mr. K. Madill, Dr. P. Marshall, Dr. S. Matsui, Dr. W. McKee, Mr. B. McNulty, Dr. A. Murphy, Dean *Pro Tem*. J. Olson, Ms. S. Parker, Dean. S. Peacock, Mr. Q. Salehmohamed, Ms. A. Shilling, Dr. T. Schneider, Prof. A. Sheppard, Dr. S. Singh, Mr. M. Stewart, Dr. L. Stothers, Dr A. Szeri, Dr. M. Thachuk, Dr. S. Thorne, Dr. M. Upadhyay, Mr. L. Wang, Dean R. Yada

Regrets: Dr H. Brock, Dr S. Forwell, Dean B. Frank, Dean R. Helsley, Dean J. Innes, Dr M. Isaacson, Dean D. Kelleher, Mr H. Leong, Ms S. Ngo, Dr T. Rogers, Dr R. Tees

Clerk: Mr C. Eaton

Call to Order

The Chair of Senate, Dr Santa J. Ono, called the fifth regular meeting of the Vancouver Senate for the 2017/2018 Academic Year to order at 6:04 pm.

Senate Membership

NEW MEMBER

The Registrar announced the appointment of Mr J. Maximillian Holmes, Student Member At-Large, and the election of Dr Mahesh Upadhyaya, Faculty Representative for Land and Food Systems, to Senate until 31 March 2018 and 31 August 2020 respectively.

NOMINATING COMMITTEE

The Registrar announced a vacancy on the Senate Nominating Committee has been filled by Mr Michael Wong.



Minutes of 13 December 2017

John Shepherd }
Jakob Gattinger } *That the Minutes of the Meeting of 13 December
2017 be adopted as corrected.*

*Corrections: Dr Shepherd's name is misspelt as
Sheppard.*

Approved as
Corrected

Remarks from the Chair

Dr Ono thanked the campus community for the past year of effort on the Strategic Plan, in particular Professor Emma Cunliff for her early work, the steering committee, and the hundreds of people who participated in the process and had their work integrated into the plan through the work of the offices of the Provost and the Vice-President Research and Innovation. In review of how Dr Toope presented the strategic plan, Dr Ono said he appreciated the approach taken and would like to proceed similarly and allow for review and comments at one Senate meeting, then a month later return with feedback received in the interim and with a request for formal endorsement from Senate.

Senator Schneider said that he admired the work in the planning process and suggested reconsidering the plan title of “Inspire”. His concern is that we don’t need to highlight the obvious. We have already been inspiring. He opined that inspire seemed like a buzzword that was present in many strategic plans and he asked if UBC could have something tangible, aspirational, and unique.

Senator A. MacDougall expressed a concern with the metrics used on page 63 suggesting that they could be more specific.

Dr Ono noted that once there was an endorsement of the high level plan we will work on how to implement it and can better define metrics at that time.

The provost said that there were a large variety of metrics already tracked. We are open to suggestions on what we should be measuring and projects when developed will have their own metrics.

Senator A. MacDougall explained that her key concern was how matters of student wellbeing were evaluated.



Senator Holmes said that with many strategies mentioned affordability was only mentioned twice and mental health only once; along with open access. He lamented that there were not more specific strategies focusing on these areas and asked if we were looking at ways of approaching those issues.

Dr Ono said yes it would.

Senator Thachuk said that the dashboard came across as too specific or definite. He suggested more flexibility. In terms of format, he suggested an executive summary. One strategy in particular that concerned him was program redesign and a shift to outcomes rather than credit hours.

The Provost said that this proposal came from the Faculty of Arts which was already working towards increasing flexibility. The basic idea is to move away from thinking of a degree as a collection of credits from specific places instead moving to thinking in terms of broader competencies that we would like students to develop in the course of their studies. In engineering, his own discipline, we have a strict accreditation regime that would make this impossible so we do recognize that we cannot pursue this easily in all areas.

Senator Thachuk said that it was too definite right now. It needs to be explored or consider where possible but not be a simple decision for everyone.

The President agreed.

Senator Gattinger asked if strategy 5 could be done more transformational rather than transactional. He suggested that fact-based decision-making should be more integrated throughout the report.

Senator Doering noted the length and the need for an executive summary. He noted that much of the text was not strategy but discussion of current activities.

Dr Ono said that the danger with removing that narrative is that it disregards what we already do as our core mission. Previous plans did not recognize our core mission sufficiently.

Senator Doering agreed that it was important to affirm what we already did but that things like the snapshots seemed extraneous.

Dr Ono said that there are multiple audiences for these documents and one important group is the provincial government who may not know what we are already doing so there is utility in including such material in the overall document.



Senator Doering noted strategy 17 (Indigenous Engagement) is worthwhile but earlier in the plan we say we want indigeneity woven through the plan. He suggests that it would be good moving forward to flush out more of the next aboriginal plan so that it can be included in a high level.

Dr Ono said that we weren't yet at a stage where that could be done and we don't want to delay this process too much, so it is an issue of timing. He suggested that we couldn't yet have that level of detail.

Senator Wang noted that Strategy 15 (Student Experience) didn't fully respect all of the aspects of the student experience. It does a good job of highlighting academics but it does not have enough of extracurricular activities such as leadership opportunities.

Senator Brar said that all of the student matters being focused in strategy 15 was not preferable and that this should be integrated more into other aspects of the plan.

Senator Singh said that undergraduate research experience needs to be strengthened, as this would open new opportunities for students. We needed support for staff and equipment and there is some from the Faculty this needs to be supported by the university at a high level for the infrastructure.

Dr Ono agreed but felt this would be better in an implementation plan.

Senator Singh suggested that student safety and a safe campus needed to be considered. He asked how can UBC become a leader in having a secure campus.

Dr Ono said that we have invested a great deal of effort and are committed to continuing efforts on sexual assault prevention and other challenges facing students and others at UBC.

Senator Murphy suggested that international engagement should be moved higher as an objective and suggested that this document that focused on problem solving did not give sufficient consideration of the humanities.

Senator Kindler asked if he could situate the strategic plan more in our contemporary history, noting that civility was declining, and authoritarianism is on the rise globally. She asked if we had an opportunity, writing this plan now, to be clear on how UBC is engaging and will engage with this moment in history. Academia is often accused of being disengaged; this gives us an opportunity to show our relevance.

Dr Ono said that he agreed. We do have to be careful not to point fingers but it is a fact that our students agree that the state of the world is not healthy.



Senator Doering asked if feedback was not incorporated could a rationale why be provided.

Dr Ono agreed.

Dr Ono thanked everyone for their comments and committed to bringing a revised plan back for endorsement the next senate.

Awards Committee

The Chair of the Senate Awards Committee, Dr Lawrence Burr, presented.

See Appendix A: Awards Report

Approved

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|---------------|---|---|
| Lawrence Burr | } | <i>That Senate accept the awards as listed and forward them to the Board of Governors for approval; and that letters of thanks be sent to the donors.</i> |
| Max Holmes | | |

Dr Forwell noted that her department was getting an award but she wasn't informed.

Dr Burr agreed to bring communication as an issue to the Development staff.

Senator Haffey asked why the Strategic Management Scholarship was being revised instead of being discontinued and a new Katja Pecarevic Memorial MBA Bursary being created.

Mr Eaton replied that it was administratively easier to change an award rather than discontinuing and create a new one.

Approved

Nominating Committee



The Vice-Chair of the Senate Nominating Committee, Dr Anna Kindler, presented.

APPOINTMENT TO A PRESIDENT'S ADVISORY COMMITTEE FOR THE EXTENSION OF THE APPOINTMENT OF THE REGISTRAR

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|----------------------------|---|---|
| Anna Kindler Blye Frank | } | <i>That Senate appoint Dr Paul G. Harrison, Department of Botany, to the President's Advisory Committee for the Extension of the Appointment of the Registrar.</i> |
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Approved

NAME, TERMS OF REFERENCE, AND COMPOSITION OF AN AD-HOC COMMITTEE ON DIVERSITY

See Appendix B: Ad-hoc Committee on Academic Diversity and Inclusivity

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| Anna Kindler Susan Forwell | } | <i>That Senate establish an Ad-hoc Committee on Academic Diversity and Inclusivity with the terms of reference and composition as set out below.</i> |
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Dr Kindler advised that the Committee considered feedback from the Senate from senators and others. In considering the recommendation, the Committee considered the bicameral nature of the university and a desire to focus on academic work. Secondly, the Committee found it helpful to focus on multiple aspects of diversity. The Committee received feedback on both having tangible goals in the terms of reference and a functional timeline for the committee's work.

Senator Gattinger noted that suggested committee size was quite large. He hoped for a robust committee that could get work done. He also suggested that going for a standard 50% quorum may pose difficulties.

Dr Kindler replied that they wanted a diversity of ideas present so the size was recommended to have sufficient people to make that possible.

Senator Holmes echoed the concerns with size and suggested that a student be a non-senate member.

AMENDMENT; COMMITTEE SIZE AND STUDENT MEMBERS

| | | |
|--------------|---|--|
| Marium Hamid | } | <i>That the number of non-senate members of the committee be reduced from 5 to 3, one of whom of whom must be a student.</i> |
| Max Holmes | | |

Senator Krebs agreed that non-senate students should participate but said that non-senators were important for diversity of opinion. The senate is a good representative of UBC but is a select group and this committee should be much more open. Having 5/12 members of the Committee be non-members opens it up to the campus community.

Senator Haffey noted that we would be going to an even number overall.

Senator Gattinger said that they would prefer a smaller committee because a lot of the committees work could come from existing reports and recommendations and that his committee should exist more for action.

Senator Thachuk supported the Nominating Committee's proposal as made.

Senator Marshall suggested that in his past experience more members was preferable. There is a sense of ownership that comes from actually being a committee member. Some of the issues in the past were that people tried to do these things outside of Senate and they were not successful as a result.

Senator Pratt said that if the purpose is to increase the amount of ideas discussed a larger group made sense but he also suggested that the committee may be functionally difficult with a larger group of members.

By general consent, the amended was divided so as to consider the size of the committee separately from the addition of a requirement for non-senate student membership.

Senator Holmes suggested that a small compact group was important for its success and this was unlikely to affect the diversity of views as those would likely be considered regardless.

Senator Krebs said that she understood the student's perspective of focusing on actionable strategies, but for that to be inclusive and diverse you needed a diverse environment around the table to do so and having non-senators present helped that conversation.

AMENDMENT: COMMITTEE SIZE



Marium Hamid } *That the number of non-senate members of the*
 Max Holmes } *committee be reduced from 5 to 3.*

Not Approved

NB: Senator Gattinger voted in favour of the amendment.

AMENDMENT: NON-STUDENT MEMBERS

Marium Hamid } *That at least one non-student member of the*
 Max Holmes } *committee must be a student.*

AMENDMENT TO AMENDMENT: NUMBER OF NON-STUDENT MEMBERS.

Kevin Doering } *To strike one and replace place it with two.*
 Michael Pratt }

Amendment to
Amendment
Approved

Amendment
Approved

Senator Thorne said that a committee of any size will not represent the full diversity of UBC and a committee of any size must represent all voices at UBC.

Senator Forwell asked what was meant by intellectual diversity. She asked if this was diversity of ideas or intellectual disability.

Approved as
Amended

Report from the Provost

**2017 REPORT ON ENROLMENT**

The Provost, Dr Andrew Szeri, presented.

In summary, he noted that this was a very successful year for UBC's enrolment.

Dr Szeri set out the strategic undergraduate enrolment initiatives. For domestic students, we are trying increase representation from across BC by connecting with secondary schools across the province. For aboriginal students, we are working closely with community partners and many faculties had their own programs. For international students our five priority areas are the United States, the Middle East, Africa, South East Asia and South America. There is greater emphasis on eRecruitment in places we do not visit personally. Finally, the Province is catching up with UBC on youth aging out of care.

Senator Singh noted the flat enrolment of domestic students with a 10-15% increase in international. Is that rate sustainable over the next 5 years? There is a perception in the community that this is done at the cost of local students, particularly in certain faculties and schools. In popular media there is a contention that our enrolment strategy is at the expense of domestic. How do we correct this view?

Dr Szeri said that we do have a domestically-funded target and we exceed that by around 10%. There are two parallel admissions processes that do not place international and domestic applicants in competition for the same seats.

Dr Sigh said that if the enrolment of international student continues at this rate we will have roughly parity in student numbers and a majority international in some faculties and schools.

Dr Szeri reminded Dr Singh that enrolment targets will be debated at the next meeting of Senate and we are seeing a leveling out in most faculties; however, the overall number will increase still in subsequent years due to multi-year degrees.

Senator Isaacson noted the PHD completion rate; a long standing issue. He asked if this was improving or degrading.

Dean Porter said that it was steady. The rate is similar across Canada and we're only 2 months longer than the Canadian average.

Senator Isaacson noted that we have tried various initiatives over the years to reduce that; have those had an impact?

Dr Porter said no they have not.



The Chancellor noted that 2.9% aboriginal students was representative of the local community but UBC served more than just Vancouver. 5% of BC was indigenous. We also need to be clear in our diction between aboriginal and indigenous. He noted that 2100 of our incoming students were transfer students. He heard comments that it was easier to transfer from local colleges than it was between campuses of UBC and asked this were true.

The Registrar replied that it wasn't more difficult but that it wasn't transparent enough. We are working to make it more transparent. The issue was generally more one of competitiveness.

Senator Hamid asked about the drop in yield rate.

Dr Szeri replied that students tended to apply to more institutions these days, but that this was a small fluctuation.

Senator Holmes asked what the cost was for exceeding the government funded target.

Dr Szeri said that his wasn't cost per se but a sign of our zeal and support for domestic enrolment.

Senator Holmes noted the decrease in retention rates.

Dr Szeri said that this was a small fluctuation well within norms.

Senator Koehoorn noted the different in FTE vs Headcount being different at UBCV vs UBCO and asked if that was a reflection in the difference or challenges in living in Vancouver or Okanagan.

The Registrar said that lower course loads is not unique to UBC Vancouver. We can look more into that. Part of that may be the program mix and how they calculate their FTEs.

Senator Harrison said that retention rates were look at carefully by advisors and that the success of every student matters. He said that this was a very well developed report that was an improvement on past years. He commended those who produced it.

Dr Ross noted that a large group were involved in production of the report across both campuses. It has taken 4 years to get to this level of reporting.

Dr Szeri noted that more modern SISs were being used by universities to try to identify students at risk and try to help them. We hoped to do the same.

2016-2017 REPORT ON EXTERNAL REVIEWS



Dr Eich outlined the 8 reviews done over the past year. Senate requires that 2 years after an external review that a report be provided to the Dean and Secretary on progress. The Provost's office now also requests a copy.

Faculty of Applied Science

Department of Mechanical Engineering – October 2016

School of Community and Regional Planning – March 2017

Faculty of Arts

Department of Art History, Visual Art & Theory – March 2017

Arts Co-op Program – May 2017

Department of Psychology – March 2017

Centre for Teaching, Learning and Technology – November 2016

Sauder School of Business – January 2017

Faculty of Science

Institute for Resources, Environment and Sustainability – October 2016

Senator Gattinger asked if we recorded an external review not being completed.

Dr Eich said that this had not happened in his time.

Report from the Faculty of Arts

MEMBERSHIP IN THE FACULTY OF ARTS

Gage Averill
Michael Pratt

}

That the changes to the Voting Membership of the Faculty of Arts Council be approved, as set out in the attached Proposal.

Approved

Adjournment

Seeing no other business, the meeting was adjourned at 8:01 pm.



Appendix A: Awards Report

NEW AWARDS

Lindsay and Elizabeth Gordon Centennial Indigenous Scholars Award

A \$10,000 renewable entrance award has been made available through an endowment established by Lindsay and Elizabeth Gordon, along with matching funds from The University of British Columbia, to First Nations, Inuit, or Métis undergraduate students of Canada entering university directly from secondary school or transferring from another post-secondary institution to an undergraduate program of study. Recipients are academically qualified with preference to students who would not be able to attend UBC without financial assistance. In addition to academic merit, consideration is given to qualities such as leadership skills, community service and recognized extra-curricular achievement. Subject to continued academic standing, the awards will be renewed for a further three years of study or until the first undergraduate degree is obtained (whichever is the shorter period). The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available 2018/2019 Winter Session)

Michael J. Korenberg Bursary in Law

Bursaries totalling \$4,000 have been made available through an endowment established by Michael J. Korenberg for students who demonstrate financial need enrolled in the J.D. Program at the Peter A. Allard School of Law. Preference will be given to students who currently reside in British Columbia. The bursaries are adjudicated by Enrolment Services. (First Award Available in the 2018/2019 Winter Session.)

L3 MAPPS Award in Naval Architecture and Marine Engineering

Awards totalling \$8,000 have been made available through an endowment established by L3 MAPPS in support of students in UBC's Naval Architecture and Marine Engineering Program. Preference is given to students with an interest in ship systems engineering and/or a background in electrical, electronic or mechatronic engineering. The award is made on the recommendation of the Faculty of Applied Science in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2018/2019 Winter Session.)

Sales and Marketing Executives of Vancouver Charles Weinberg Research Award

Awards totalling \$12,000 have been made available through an endowment established by Sales and Marketing Executives International for PhD students studying at the Sauder School of Business. The awards support students undertaking research in the field of quantitative marketing who demonstrate a great passion for teaching. This research award was established in honour of Prof. Charles Weinberg, for his many years of dedication to teaching and research in Marketing at the Sauder School of Business. Sales and Marketing Executives International is a worldwide organization dedicated to ethical standards, continuing professional development, knowledge sharing, and student mentorship. The awards are made on the recommendation of the Sauder School of Business in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2018/2019 Winter Session.)

D.G. Harkness Thunderbird UBC Rugby Bursary

One or more bursaries, which may range from a minimum value of \$500 each to the maximum allowable under athletic association regulations, are made available through an endowment established by Graeme Harkness and matched by The University of British Columbia for rugby athletes who demonstrate financial need. Proceeds from the endowment will be split evenly between



the Men's and Women's Rugby Teams. Adjudication is made by Enrolment Services in consultation with the Department of Athletics. (First Award Available in the 2018/2019 Winter Session.)

Nini M. Harris-Lowe Memorial Bursary in Occupational Therapy

Bursaries totalling \$2,000 have been made available through an endowment established by Mr. Rick Lowe (B.Sc.1982) and matched by the University of British Columbia, in memory of his spouse, Mrs. Nina M. "Nini" Harris-Lowe, for students entering or pursuing their degree in occupational therapy. Recommendations are made by Enrolment Services.

Weir-MacDiarmid Family Bursary in Medicine

Bursaries totalling \$2,000 have been made available through an endowment established by Donald MacDiarmid, along with matching funds from The University of British Columbia to students who are Canadian citizens or permanent residents. The bursary honours UBC alumni Drs. E. Ruth Weir, Lorna M. Weir and Margaret A. MacDiarmid for their exemplary service in the health care profession in British Columbia. Over the span of their careers, they have affected thousands of lives through their posts as family physicians, head of departments, and government representatives. The bursaries are adjudicated by Enrolment Services. (First Award Available in the 2018/2019 Winter Session entering the MD program.)

UBC Blue & Gold Bursary

Bursaries totalling \$1,400 have been made available through an endowment supported by various donors, along with matching funds from The University of British Columbia. Recipients will be undergraduate students who have demonstrated financial need and are Canadian citizens or permanent residents of Canada. The bursaries are adjudicated by Enrolment Services with preference to be adjudicated through the Blue & Gold Bursary program. (First Award Available in the 2018/2019 Winter Session)

SNC-Lavalin Memorial Award in Health and Safety for Tyler Rudderham

Awards totalling \$1,200 have been made available through an endowment established by SNC-Lavalin in memory of Tyler Rudderham (1990-2017), a member of the Ironworker's Association of BC who died in a workplace accident. The awards are given to engineering undergraduate students in any year of study who demonstrate exceptional leadership, understanding, and are involved in activities that promote health and safety. The awards are made on the recommendation of the Faculty of Applied Science.

BC Egg Marketing Board Scholarship

Two \$2,500 scholarships are offered annually by the BC Egg Marketing Board to students who demonstrate academic excellence and are conducting projects of value to the egg or poultry sector. Recommendations are made by the Faculty of Land and Food Systems and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2017/2018 Winter Session.)

BC Egg Marketing Board Travel Award

Two \$2,500 travel awards are offered annually by the BC Egg Marketing Board to support the travel and participation of students at events and conferences that have a focus on or is related to the poultry sector. Recommendations are made by the Faculty of Land and Food Systems and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2017/2018 Winter Session.)



Master of Business Analytics Bursary

Bursaries are offered annually by the Sauder School of Business to students in the Master of Business Analytics program who demonstrate unmet financial need. Available funding is determined annually based on enrolment in the program. The award is adjudicated by Enrolment Services. (First Award Available in the 2018/2019 Winter Session.)

Harris & Company Award in Law

A \$2,500 award is offered by Harris & Company to a student entering second or third year of the JD program who is in good academic standing. Financial need may be considered. This award is made on the recommendation of the Peter A. Allard School of Law.

PREVIOUSLY APPROVED AWARDS WITH CHANGES IN TERMS OR FUNDING SOURCE

1614 – Strategic Management Scholarship

Current Award Description

A scholarship of \$1,600 is awarded to an MBA student studying in the field of Strategic Management. The award is made on the recommendation of Sauder School of Business in consultation with the Faculty of Graduate and Postdoctoral Studies.

Proposed Award Description

Katja Pecarevic Memorial MBA Bursary

Bursaries totalling \$1,600 have been made available through an endowment established in memory of Katja Pecarevic who was a talented instructor, passionate market research specialist, and alumna of the Sauder School of Business (MBA 1998). The bursary is for MBA students who demonstrate financial need. Adjudication is made by Enrolment Services.

Rationale for Proposed Changes

UBC Sauder wishes to combine the Strategic Management Scholarship with the funds raised in support of a bursary in memory of Katja Pecarevic and create a viable-sized endowment with \$33,857 in capital, which will continue to support MBA students as the Katja Pecarevic Memorial MBA Bursary Endowment Fund.

President's Award for Distinguished Service by a UBC Emeritus

Current Award Description

One or more awards of \$1000 are offered annually by the UBC Association of Professors Emeritus to UBC Emeriti who have, since attaining Emeritus status, displayed exceptional leadership or initiative in volunteer community service that benefits others in Canada or abroad. It is anticipated that the recipient will direct the Award to an organization, charity, or fund of their choosing. Nominations for the award may be made by any Emeritus to the Vice Provost's Office, UBC. The first Award will be in 2017-2018.

Eligibility: all persons listed under "Emeritus Staff" in The UBC Vancouver Academic Calendar.

Proposed Award Description

Katja Pecarevic Memorial MBA Bursary

One or more awards of \$1000 are offered annually by the UBC Association of Professors Emeritus to UBC Emeriti who have, since attaining Emeritus status, displayed exceptional leadership or initiative in volunteer community service that benefits others in Canada or abroad. It is anticipated that the recipient will direct the Award to an organization, charity, or fund of their choosing. Nominations for



the award may be made by any Emeritus person to the Vice Provost's Office, UBC. The first Award will be in 2017-2018.

Eligibility: all persons listed under "Emeritus Staff" in The UBC Vancouver Academic Calendar.

Rationale for Proposed Changes

On the recommendation of the Emeriti Association and the Office of the Provost and Vice-President Academic, the nomination process for this award is being revised to permit any person to nominate a recipient.



Appendix B: Ad Hoc Committee on Academic Diversity and Inclusivity

TERMS OF REFERENCE:

- 1) To examine and report back to the Senate on the academic environment and its impact on academic diversity and inclusivity;*
- 2) To develop a framework for incorporating considerations of multiple dimensions of diversity, including demographic and intellectual diversity and inclusivity into academic decision making;*
- 3) To make recommendations to the standing committees of Senate as appropriate to ensure that the University provides inclusive intellectual and social environments that allow people to fulfilling their academic, professional and personal potential; and*



- 4) To Report back to Senate at least once per term in the Winter Session with the status of the committees work, and to provide a final report to Senate on the work of the Committee by January 2020 at the latest.*

MEMBERSHIP:

Six (6) Members of Senate, two of whom must be students

Five (5) Non-Members of Senate, two of whom must be students.

STRATEGIC PLAN 2018–2028

SHAPING UBC'S NEXT CENTURY

Inspiring people, ideas and actions for a better world

DRAFT 9 February 2018

A NOTE FROM THE PRESIDENT AND VICE-CHANCELLOR

Welcome to ***Shaping UBC's Next Century***: the strategic plan of the University of British Columbia (UBC). As we embark on our next century as a leading public university, it is an excellent time for UBC to launch a new strategic plan.

The planning process over the last year has afforded the UBC community the opportunity to connect with one another, to share perspectives on what defines UBC, and to exchange ideas about our role in the world. ***Shaping UBC's Next Century*** builds on the university's previous strategic plan, *Place and Promise*, and focuses on three **themes** that we believe are critical to society today: *inclusion, collaboration* and *innovation*. The plan describes the strong connections between these themes and the **core areas** that continue to define what we do as a public university: *People and Places, Research Excellence, Transformative Learning* and *Local and Global Engagement*. It also emphasizes our enduring commitment to academic excellence and to Indigenous engagement, sustainability and wellbeing. Our relationship with Indigenous people and communities is central to the university and our personal and institutional commitments to reciprocity, knowledge curation and development are profound.

The plan sets out our collective vision and purpose, and our goals and strategies for the years ahead. It will guide our decisions, actions and interactions and will create a framework for resource allocation across the university. People remain the cornerstone of UBC. The plan reflects our commitment to their health, development and success, without which we will not fulfil our collective potential. We want to *inspire* the very best in our students, faculty, staff, alumni and partners, and we recognize the degree to which we continue to be *inspired* by the individuals and the communities with whom we work.

I am excited to deliver this plan. This is our moment to harness the energies and strengths of this extraordinary institution to contribute to sustainable and positive change, both locally and globally. Our vision of ***Inspiring people, ideas and actions for a***

better world reflects our strongly held belief that we have, personally and collectively, the desire, capacity and responsibility to make this happen. This is our moment to *inspire*.

I am proud of the way our community has come together to create the direction and spirit so evident in this plan. To the many thousands of individuals – students, faculty, staff, alumni and university partners – who contributed their perspectives and passion to this effort, I offer my deepest thanks.

Professor Santa J. Ono
President and Vice-Chancellor

DRAFT

INTRODUCTION

The process of developing UBC's new strategic plan has helped to forge a consensus about the directions we will take as a public institution. Throughout 2017, thousands of members of the UBC community came together through group discussions, open houses and online surveys to provide input that helped inform the plan. That input was further shaped by a representative Steering Committee, multiple working groups, *alumni UBC*, the Deans, the Executive and diverse university committees. We have also engaged extensively with external partners along the way, with these conversations progressively more focused as the plan has taken shape. UBC has benefited greatly from the contributions and commitment of these individuals and groups and will further benefit from continued work together as we move into implementation.

We begin by acknowledging that UBC's two main campuses are located on the traditional, ancestral and unceded territories of the xʷməθkʷəy̓əm (Musqueam) and Syilx (Okanagan) peoples, and that UBC's activities take place on Indigenous lands throughout British Columbia and beyond. In recent years the work of the *Truth and Reconciliation Commission of Canada* and the publication of its *Final Report* and *Calls to Action*, and the development of the *UN Declaration on the Rights of Indigenous People*, have brought renewed attention to the ways in which Canadian educational and other institutions have failed and oppressed Indigenous people. At this historic juncture, UBC renews its commitments, articulated in the 2009 *Aboriginal Strategic Plan*, to addressing this history and charting a way forward that provides a basis for productive co-existence and a more equitable future. Specific measures are identified throughout this plan, and these are being reviewed and revised in the context of the 2018 *Indigenous Strategic Plan* ([LINK](#)).

This UBC plan builds on the successes of the past. The university recently celebrated its centennial, marking 100 years of excellence in research, education and

service to British Columbia. UBC's previous strategic plan, *Place and Promise*, sparked significant academic achievements, with deepening commitments to Indigenous people and communities, sustainability and alumni engagement. It channelled institutional attention and activity toward international collaboration, intercultural understanding and outstanding work environments. Collectively, these accomplishments position us well to embrace the opportunities and navigate the challenges that lie ahead. The locations of our campuses and multiple learning and research sites at the western edge of Canada enable fresh perspectives in a fast-changing global landscape. These are reinforced by the relative youth of UBC in the world of higher education.

As a public institution, UBC is proud to play a pivotal role in British Columbia, shaping and participating in the development of its people, society and economic growth. At the same time, UBC is a globally renowned university, contributing world-leading research, providing distinctive excellence in education, attracting outstanding people domestically and internationally, and collaborating with preeminent universities and organizations around the world. The founders of UBC understood the university's potential as a place of engagement; a place where relevant, innovative and impactful research could be conducted; a place where pressing societal issues would be examined, deliberated and resolved; and a place where critical thinking would always be welcomed, and informed citizens shaped. We strive to fulfil this potential in all that we do, locally, regionally, nationally and across the world.

The plan identifies key areas for future work and provides support for decision-making and resource allocation across the university. It allows us to see more clearly our roles in context and creates a basis for external dialogue and engagement. Importantly it helps us define the outcomes against which we can be held accountable and the metrics by which to assess our progress. ***Shaping UBC's Next Century*** provides connections across – and support for – the many strategic plans that articulate ambitions and guide activity in constituent parts of UBC, including Faculties and university-wide initiatives. In 2014, UBC Okanagan articulated its goals and actions in a

visioning exercise entitled *Aspire*, a foundational document for both the campus and our institutional planning ([LINK](#)).

We recognize that successful implementation will require sustained leadership, activity and resources. This plan is built upon the strengths of all members of the UBC community – students, faculty, staff, alumni and partners – and it is dependent on their continued engagement and contribution. UBC is committed to ensuring that the required supports are in place to help us fulfil the goals and priorities outlined in *Shaping UBC's Next Century*.

Snapshot: UBC by the numbers (all data 2016/17)

With over 65,000 students, and 13,300 degrees granted, UBC is the largest university in British Columbia and the second largest in Canada. It accounts for about a quarter of funded domestic enrolments in the province, and over 70% of new-to-UBC students are from British Columbia. 6.9% of domestic students enrolled at UBC Okanagan identify as Aboriginal, and 2.9% of domestic students at UBC Vancouver. UBC has been ranked as North America's most international university by *Times Higher Education (THE)* for the fourth consecutive year. UBC has grown to rank consistently as one of the world's top research universities (ranked 31 by the 2017 *Shanghai Academic Ranking of World Universities (ARWU)*; 36 by 2016 *THE*; 27 by *US News Best Global Universities*). Close to 3,000 faculty members attract approximately \$600 million in research funding from government, industry and not-for-profit partners. UBC conducts 93% of all university industry-sponsored research in British Columbia.

([LINK https://www.ubc.ca/about/facts.html](https://www.ubc.ca/about/facts.html) for updates)

In developing the plan, we have renewed our ***vision*** and ***purpose*** as a university. These reflect an ongoing commitment to excellence in the academic mission, to citizenship and to positive change. We emphasize the people, ideas and actions that enable us, personally and collectively, to achieve these aims and achieve inspirational impact. We also highlight the interconnectedness of UBC's activities, both internally and with our local and global partners. Our efforts in the past decade to improve Indigenous relationships, sustainability and alumni engagement, framed through *Place and Promise*, have enabled considerable progress, and these are now widely regarded as fundamental to the UBC community and to our partners. Continued focus in these areas is an essential aspect of our work in research and education.

We are seeking to *inspire* people, ideas and actions, and to build together a creative and dynamic institution comprised of – and connected with – *inspiring* people, ideas and actions. The word inspire has another meaning for us, related to its original meaning of “to breathe in”, through deep engagement with societal partners, new forms of academic inspiration and the pursuit of opportunities to serve society better.

Vision

Inspiring people, ideas and actions for a better world

Purpose

Pursuing excellence in research, learning and engagement
to foster global citizenship and advance a sustainable and just society
across British Columbia, Canada and the world

Five enduring **values**¹ underpin all our activities, interactions and decisions. From the classroom and laboratory to committees and leadership of the university, to our interactions with the world; individually and collectively, they act as both a compass and a filter for our work.

Excellence

A profound and aspirational value:
the quality of striving to be, and being, outstanding

Integrity

A moral value:
the quality of being honest, ethical and truthful

Respect

An essential and learned value:
regard felt or shown towards different people, ideas and actions

Academic freedom

A unique value of the academy:
a scholar's freedom to express ideas through respectful discourse
and the pursuit of open discussion, without risk of censure

Accountability

A personal and public value:
being responsible for our conduct and actions
and delivering upon our respective and reciprocal commitments

¹ Definitions adapted from: *The Canadian Oxford Dictionary* (2 ed.), Ed. by Katherine Barber, OUP 2004

The plan provides a roadmap to help UBC reach its potential and a mechanism through which we can be held accountable. Our vision is further articulated with the following **ten goals – the UBC Promise**. UBC is an institution where we:

- Lead globally in research excellence, discovery, scholarship and creative endeavours;
- Inspire and enable students through excellence in transformative teaching, mentoring, advising and the student experience;
- Partner with Indigenous communities on and off campus to address the legacy of colonialism and to co-develop knowledge and relationships;
- Build a diverse culture that integrates our themes of innovation, collaboration and inclusion, and infuses them through all our activities;
- Lead globally and locally in sustainability and wellbeing across our campuses and communities;
- Significantly expand student access, alumni networks and institutional partnerships to reinforce global and local connections;
- Lead as a first-choice place to learn and work;
- Define and leverage the distinctive and complementary strengths of our campuses and learning sites;
- Achieve agility in academic support and administration through thoughtful systemic change and simplification; and
- Lead as a model public institution, fostering discourse, knowledge exchange and engagement.

UBC currently tracks, and will continue to track, **metrics** at the institutional level, many of which are highlighted in the *UBC Annual Report*. We have defined a subset of these that constitute a ‘dashboard’ for **Shaping UBC’s Next Century**. These metrics will evolve as we identify better methods of evaluation. Our performance against these measures will provide a barometer of our progress ([LINK](#)).

I. Themes and core areas

Over the course of the planning process, we received thousands of thoughtful comments from students, faculty, staff, alumni and our external partners. This valuable input formed the basis of areas of strategic focus that have been articulated within the plan as **themes** and **core areas**. Each plays a significant role as follows:

- The **themes** represent key opportunities for transformational change in how we work in the coming years. These cross-cutting areas will enhance our academic impact in an increasingly complex and interconnected world. They are imperatives if we are to achieve the vision and objectives of the plan.
- The **core areas** represent the capacities in which we work as a public university. They form the building blocks for progress. They are the mechanisms through which we seek to inspire.

Each of the themes and core areas is described within the plan, together with a set of **strategies** derived from them. The strategies have been grouped according to core area, even while recognizing that they have been closely informed by the themes. Together these components constitute a strategic framework for UBC, one that seeks to represent our collective ambitions and priorities. We will provide examples of our work in these areas throughout this plan, but they represent only a tiny fraction of the full span of our activities.

II. Three themes

During the planning process, the UBC community, together with our partners, converged on three themes: ***inclusion, collaboration*** and ***innovation***. By focusing on these areas, we can reinforce and improve on our current successes in research, teaching and learning, and local and global community engagement. Progress in these areas will support the wellbeing and success of people at UBC. Achieving excellence in the themes will require clear leadership and firm action to enable the required changes in culture and practice.

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Theme: Inclusion

Embedding equity and diversity across university systems and structures

Achieving sustained excellence in research, education and engagement depends on the integration of diverse perspectives and approaches. As a public institution, UBC has the responsibility to ensure inclusion across students, faculty, staff and alumni, and through all interactions beyond the university. Inclusion is a commitment to access, success and representation of historically under-served, marginalized or excluded populations. Given the long-lasting legacy of colonization of Indigenous peoples, we will continue to prioritize our partnerships with Indigenous peoples and communities. Because education is an enabler of social development and mobility, UBC is intent on playing a leading role in advancing the inclusion of all those who have been excluded historically based on gender, race, religion, sexuality, age, physical ability or affordability.

The *Equity and Inclusion Office* at UBC provides leadership and coordination to further UBC's commitment to *Inclusive Excellence*. The Office offers data collection and analysis, as well as case and issues management, working closely with students, faculty and staff to ensure they have the tools and skills necessary to contribute to socially sustainable communities. Inclusion is also a focus of our research and teaching. For example, faculty in the *Stigma and Resilience Among Vulnerable Youth Centre* in the School of Nursing have used mixed-methods research for close to fifteen years with groups of vulnerable youth, such as those experiencing homelessness and characterized by sexual diversity, to examine stigma, violence and trauma as well as factors that foster resilience. Research conducted in the Department of Geography looks at the relationship between Canadian immigration law and the integration of immigrants in

our cities, including the gendered and generational experiences of belonging for Syrian refugees resettling in Canada.

The university invests in student financial assistance, with much of it focused on needs-based bursary support and funding for historically excluded student populations. Late in 2017, the *Blue & Gold Campaign for Students* was launched, with the goal of raising \$100 million in student support over three years, making this the largest fundraising campaign for students in Canadian history. Resources are also in place to support international students and commuter students, both integral and vibrant parts of the university community. Led by strong student advocacy efforts, UBC is expanding the use of open textbooks to improve affordability. As of 2016, the creation and dissemination of open educational resources is recognized as an example of *Educational Leadership* activity in consideration for appointment, promotion and tenure decisions. UBC has also launched a diverse set of high-demand public online offerings (massive open online courses or MOOCs), including *Reconciliation through Indigenous Education*, *How to Write a Novel*, *Climate Change: The Science* and *Introduction to Marketing*. The Library's *Open Collections* contains over 200,000 public available digital objects.

Our intentions are bold and genuine, and there are good examples of positive impact in inclusion to date. But we must redouble our efforts to make sustained progress. We will work harder to recruit and support students, faculty, staff and leaders who are representative of the full range of people who would like to call UBC home.

Snapshot on Inclusion: The Indian Residential School History and Dialogue Centre

(IRSHDC) will open its doors to the public in Spring 2018. The Centre is conceived with two key goals in mind. First, it will be a place where former students and survivors, and their families and communities, access their records and other historical materials gathered by the *Truth and Reconciliation Commission of Canada* and others. It will be a place for them to share their experiences and to consider, with others, the consequences and implications of what happened to them. Second, the **IRSHDC** will serve as a source of educational and public information for students at UBC and elsewhere, and for others who visit the Centre, in person or online. The **IRSHDC** will connect much of UBC's Indigenous research, learning and engagement, providing a space that promotes inclusion, respect and accountability. [\(LINK\)](#)

Theme: Collaboration

*Advancing purposeful, coordinated action across the university
and with the broader community for enhanced impact*

Because opportunities and challenges are rarely confined to the expertise of a single individual or to disciplinary or institutional boundaries, universities need to become more adept at collaboration. From climate change to emerging health issues like the opioid crisis, to our strained social cohesion, advances will require not only new depths of disciplinary expertise, but also new ways of working within and across disciplines and with the community. Collaboration has ramifications in teaching and learning, in curriculum and course design, and in providing students with the latitude they need to navigate their interests and aptitudes. These challenges also require a new approach to research, in which interdisciplinary researchers or multidisciplinary teams come together to supplement the work in the disciplines and to advance discovery, scholarship and knowledge exchange.

With its two campuses and many learning and research sites – and through the strength of its relationships across the province and connections beyond British Columbia – UBC is well positioned to cultivate collaborative efforts. The formation in 2017 of the School of Biomedical Engineering, the result of collaboration between the Faculties of Medicine and Applied Science, offers students access to experts working to advance the role of technology in health sciences and health care. Other examples include: the *Centre for Inclusion and Citizenship* that connects the UBC School of Social Work with community living organizations seeking to further the integration of persons with intellectual disabilities; the *Language Sciences Initiative* that considers the uniquely human phenomenon of language across multiple disciplines; the *Okanagan Institute for Biodiversity, Resilience and Ecosystem Services (BRAES)* that brings together faculty members and students across departments working in ecology, biodiversity,

conservation and environmental sustainability; the *Stewart Blusson Quantum Matter Institute* that seeks to understand and develop new quantum materials through international collaborations with such partners as the University of Tokyo and the Max Planck Society; and the *Pacific Institute of Mathematical Sciences* (PIMS) that promotes research and education in the mathematical sciences across ten universities.

These efforts demonstrate the extraordinary value of collaboration in our academic endeavours. Each has succeeded in creating the conditions required to coalesce people, ideas and actions even where these have challenged institutional and personal norms. We will work hard to remove such barriers and, where appropriate, establish mechanisms to encourage further and sustained collaboration, both internally and with off-campus partners, such as Indigenous communities. The role of 'catalysts' or champions in helping establish these new practices will be important.

Snapshot on Collaboration: UBC Health is an institutional consortium across UBC's health disciplines. It complements the activities across the province of individual Faculties and Schools, through its focus on tasks of shared importance that require intensive coordination. UBC is uniquely placed to play a leading role in British Columbia and in Canada in the transition to a system that is more patient-centred, community-based, team-oriented and evidence-informed. As the sole education provider in the province for many health disciplines, UBC has extensive experience in distributed health education. Together with our Health Authority affiliates, UBC accounts for over 80% of health research in British Columbia and has worked closely with other universities to increase provincial research funding. The university is intent on facilitating the path towards a more integrated health care system, and **UBC Health** is critical in this aim. The *UBC Plan in Health* ([LINK](#)) outlines priorities for interdisciplinary research, education and innovation that support this ambition, enabling the university to help activate the collective assets of the province in the pursuit of greater societal wellbeing and economic benefit.

Theme: Innovation

Cultivating creativity, resilience and shared risk-taking that catalyze new approaches within the university and beyond

In a world characterized by complex societal challenges and heightened public expectations, broad-based innovation is imperative. As institutions of research and learning, universities must embrace creativity and risk-taking across all their activities. Technology and data are reshaping our world and how we interact with each other. The explosion of information opens opportunities to study and to solve problems in new ways and to translate new knowledge that is generated into impact beyond the academy. For instructors and learners, there are gains to be had in supplementing the traditional classroom experience and opening access to education through online learning. Universities must support students, faculty and staff in acquiring the skills and competencies they need for success in this rapidly changing landscape. Beyond its role in the evolution of research and education, this spirit of innovation must also characterize the ways that public universities operate and steward resources. More specifically, there is a compelling need in British Columbia to be a leading global centre of innovation so that the province remains one of the best places in the world to live and work.

For many years, UBC has been a leading partner in advancing British Columbia's technology, natural resources, life sciences, cultural and information sectors. We are at the forefront of innovation in green buildings and communities, and UBC has played a lead role in researching and demonstrating the potential for smart cities. Fueling such innovation is an expanding network of support for entrepreneurship at university, campus and Faculty levels. This includes technology incubators in Applied Science and the Sauder School of Business, Sauder's *Centre for Social Innovation and Impact*

Investing (S3i) and the *Innovation Precinct* in the Okanagan that creates a revolutionary new space for research and development activity. The Library's *Small Business Accelerator* provides free access to reliable resources to help British Columbia businesses and entrepreneurs enhance their performance. The *Centre for the Study of Democratic Institutions* and the *Institute for Future Legislators* are part of a broad set of initiatives to encourage innovation in governance. UBC's location in a corridor of innovation anchored by universities and industry across the Pacific Northwest is a crucial underpinning. The *Cascadia Urban Analytics Cooperative*, through which we work with the University of Washington and Microsoft, is an example of our collective capacity for discovery and impact. Using and integrating approaches from the social and computation sciences, this collaboration seeks to address chronic urban challenges, ranging from homelessness to traffic congestion.

We are also renowned for our long-standing commitment to innovation in teaching and learning. The UBC Vancouver *Centre for Teaching, Learning and Technology* (CTLT) and the UBC Okanagan *Centre for Teaching and Learning* (CTL) support faculty in pedagogy and curriculum design. They coordinate dedicated annual competitions for funding that solicit, assess, support and evaluate proposals from faculty members and students for innovation in courses and programs.

Going forward, we must ensure that our innovation activities are purposeful, connected and enduring. Innovation across all activities, learning, research and operations, must be encouraged. And our efforts must support constructive engagement with partners beyond the academy.

Snapshot on Innovation: Research conducted at UBC has changed the world in many ways, from ensuring sustainable use of the world's coastal marine ecosystems through *Project Seahorse* to developing composite materials that fly in commercial aircraft daily. UBC helps take new knowledge generated from research through to socio-economic impact by enabling multiple '**Research to Innovation**' pathways. Some of these pathways, such as **commercialization** through licensing and patenting, have been supported for thirty years with many notable achievements. These include the largest licensing deal in Canadian history, the \$140 million licensing of a prostate cancer drug, and the provision of panoramic stitching software used in mobile phones throughout the world. Since 2013, the university has offered support for **new venture creation** by students, faculty and staff through *entrepreneurship@UBC (e@UBC)*. Many of these endeavours are already having impact, including *Acuva*, which is providing an easy to use and low footprint water disinfection solution based on light-emitting diodes (LEDs). **Knowledge exchange** pathways that translate research results into policies and practices exist across the university. Research from the School of Population and Public Health, for example, in partnership with provincial health care and research institutes, has been influential in setting and directing policy in cervical cancer prevention and reproductive health both in Canada and globally. At the intersection of research, learning and engagement, these pathways extend and deepen UBC's impact.

III. Four core areas and associated strategies

The core areas within this plan represent our work as a public institution. They are: ***People and Places; Research Excellence; Transformative Learning; and Local and Global Engagement.*** UBC has considerable strength – and exciting new activity – in all four areas. However, there are clear opportunities within each for progress that the plan sets out to address.

Through extensive consultation during 2017, the UBC community provided input that resulted in the distillation of twenty ***strategies***. These strategies will help shape the university in the coming years. There are rich connections made by the strategies across the themes and core areas. Most strategies embrace multiple parts of our university community, and many engage our external partners. Each is intended to provide support and guidance to the activities of Faculties, schools, departments and cross-cutting initiatives, as expressed in their own strategic plans.

Core area: People and Places

*Creating vibrant, sustainable environments that enhance wellbeing
and excellence for people at UBC and beyond*

At the heart of the university's identity, *People and Places* refers to the mutually reinforcing groups of people and locations (physical and virtual) that define how the work of UBC is accomplished and that endow it with its special qualities as an institution. Our campuses in Vancouver and the Okanagan are situated on the traditional, ancestral and unceded lands of the Musqueam and Syilx Okanagan communities, respectively. This central fact is foundational to much of the research and educational enterprise of the university and is reflected in important installations on our campuses, including the *Reconciliation Pole* by Haida artist Jim Hart on the Vancouver campus. UBC's location further enables connections with Asia and the Pacific Rim that position the university as a unique place for discourse, learning and engagement.

'People' naturally includes students, faculty, staff, alumni and residents, as well as our Indigenous partners. But also included are those less frequently mentioned, such as postdoctoral research fellows, medical trainees, lifelong learners, emeritus faculty members and retired staff – in addition to volunteers, philanthropic supporters, colleagues at other institutions, and those with whom we work in the local, provincial and federal governments. Our partners include the Health Authorities that provide clinical placements for our 4,000 health students across the province. And they include the disciplinary societies, community and professional associations, and unions that provide the framework for much of our activity. The university simply could not function without these constituents, many of whom connect with UBC in different capacities and all of whom contribute perspective, knowledge and energy. Together they create the diversity that makes UBC a place for people to thrive as individuals, peers and citizens.

The ‘Places’ of UBC are equally diverse. They encompass our campuses and campus communities at Point Grey and Kelowna, locations in downtown Vancouver such as Robson Square, the hospitals at which our health students and faculty conduct much of their work and the additional sites of our distributed medical program, the *Learning Exchange* in Vancouver’s Downtown Eastside and numerous sites of community-based research and learning throughout British Columbia, across Canada and beyond. Our virtual *places* are expanding rapidly, including online class discussions, internet platforms that host open educational resources created by UBC faculty, and conference links that bring together our various sites in collaborative research and learning.

Places play a profound role in shaping the experience of the people who work and live in them, and people in turn are powerful influences on their places. It is our ongoing responsibility to ensure that our activities nurture a positive and reciprocal dynamic between people and places. UBC seeks to promote and protect this through our deep commitments to Indigenous peoples, to sustainability and to wellbeing. These three aspects of our work, all interdependent, help to differentiate the University of British Columbia.

Over the years, UBC has defined a comprehensive approach on Indigenous engagement, with significant accomplishments achieved under the 2009 *Aboriginal Strategic Plan*. UBC offers 180 courses with Indigenous content as well as degrees in First Nations and Indigenous studies and languages (2017). The Allard School of Law is a leader in Indigenous legal education in North America and the *NITEP (Indigenous Teacher Education Program)* is a Bachelor of Education program for aspiring Indigenous teachers that builds upon Indigenous identity and cultural heritage. But there remains much work to do. These ambitions are the subject of the 2018 *Indigenous Strategic Plan* ([LINK](#)), which builds upon the foundation of the *Aboriginal Strategic Plan*. We need to ensure access of a greater number of Indigenous students to the full range of educational opportunities and address embedded colonial biases throughout the

curricula and elsewhere across the system. We need to co-create curricula and research projects on matters of concern to Indigenous people and communities. Finally, UBC must contribute to a better, deeper, broader understanding of Indigenous history and peoples and the legacy of colonization.

UBC is regarded as a leader in sustainability, with a long track record of innovative practices and programs. We define sustainability as simultaneous improvements in human and environmental wellbeing. Our evidence-informed approach delivers innovation in learning environments, operations, infrastructure and transportation. This includes UBC's use of the *Campus as a Living Laboratory* – the *UBC Farm* and the *Centre for Interactive Research on Sustainability (CIRS)* as examples. The embedding of a research laboratory inside an operational facility, such as at the *Bioenergy Research and Demonstration Facility*, differentiates UBC's approach. The 20-year *Sustainability Strategy*, articulated in 2014 ([LINK](#)), provides a long-term framework for the university in its planning and activity, but the challenges around climate change are ever more complex and the stakes are high. Our academic and operational efforts need to intensify on our campuses, in affiliated communities and across the world. We must go beyond minimizing harm to becoming net contributors to human and ecological health.

In October 2016, UBC became one of the first universities in the world to adopt the *Okanagan Charter: An International Charter for Health Promoting Universities and Colleges*. The Charter includes two calls for action: (1) embedding health into all aspects of campus culture, across the administration, operations and academic mandates; and (2) leading health promotion action and collaboration locally and globally. The *UBC Wellbeing* and *UBC Thrive* programs are system-wide efforts to make the university a better place to live, work and learn; our focus on mental health is integral to our success as an institution and as a source of influence for positive change in society. UBC's *Wellbeing Strategic Plan* ([LINK](#)), under development in 2018, will channel university-wide effort and ensure continued focus.

Universities are increasingly competing for the very best student, faculty and staff talent, and UBC is no exception. In addition to the imperatives noted above, we must address the significant challenges related to housing and transportation, improve the ways we work, enhance the student experience and improve quality of life for all of us in the university community. These are fundamental if we are to continue to attract and retain outstanding people. Of course, students eventually become alumni. We have made tremendous strides in building a strong culture of alumni engagement, but UBC is competing also for the attention of our alumni, numbering in 2017 more than 325,000 in over 140 countries.

Strategy 1. GREAT PEOPLE: Attract, engage and retain a diverse global community of outstanding students, faculty and staff

Through recruitment, advising and mentoring, professional development and support we will build and sustain a global university community, representative of all, including historically excluded populations. Consistent with our intention to be a leader in diversity and equity, we will recruit more expansively, including Indigenous students, faculty and staff. We will work to create conditions whereby all faculty and staff feel a deep sense of connection and contribution to the academic purpose of the university. To help address affordability pressures, we will expand financial assistance programs for students, including continued growth in open education resources, and we will improve funding for graduate students and postdoctoral fellows. We will put into place enhanced support structures and services, including those to help address housing affordability in the Lower Mainland and childcare for university employees. We will also sustain efforts to make our campuses safe for those who live and work at UBC. Finally, professional development and succession planning are vitally important. For this reason, we will strengthen programs that support workplace learning, course access for employees and leadership development through initiatives such as the *Academic Leadership Development Program (ALDP)* for faculty and *Managing@UBC* and the *Community Leadership Program* for staff.

Strategy 2. INSPIRING SPACES: Create welcoming physical and virtual spaces to advance collaboration, innovation and community development

We will establish dedicated, accessible and vibrant spaces across the university, community and region that provide forums for interdisciplinary and creative interaction in research, learning and operations, and that showcase the impact of our work more broadly. Inspiring indoor and outdoor spaces can be powerful catalysts for new activities and new ways of working, especially when these promote engagement and creativity. With over 65,000 students, nearly 12,000 of whom live on campus, such spaces create tremendous opportunity for faculty, staff and partners to exchange ideas with the next generation. New designs for classrooms will emphasize digital connectivity, the potential for group collaboration and problem-based learning. It will be no small feat to re-engineer the traditional classroom, but UBC intends to be a leader in innovative classroom design. Virtual spaces will play an ever more integral role, and UBC will continue to strengthen its digital environments. In addition to stimulating collaboration, innovation and community development, these spaces or ‘hubs’ will demonstrate UBC’s commitment to inclusion and civil discourse and will nurture an increased sense of community. Well-designed spaces are needed to drive and enable interaction within and between our campuses and learning sites, and with the broader community. As part of this strategy, we will work with partners on the development of UBC’s Downtown Vancouver and regional presence, recognizing that many people live and work beyond easy reach of our campuses.

Strategy 3. THRIVING COMMUNITIES: Support the ongoing development of sustainable, healthy and connected campuses and communities

We will advance sustainability and wellbeing through renewal and innovation in our learning environments, operations and infrastructure. The expansion of the *Campus as a Living Laboratory* will address social and environmental issues beyond our campuses. Working with regional partners and residential communities in sustainable planning and development, we will prioritize efforts to advocate for better transit to our campuses, as

a complement to our focus on housing support. Improvements will benefit the thousands of students, faculty and staff who commute to UBC and would facilitate engagement with partners beyond the university. Our campuses are situated in spectacular natural settings, and we will ensure harmony with the natural environment through the ecologically sensitive design of new buildings and open spaces. UBC will invest strategically in digital platforms and tools, including the integration and evolution of our new learning management system. Technology will play a crucial role in enabling efforts to work more synergistically across our campuses and learning sites. We will promote a supportive culture that enhances wellbeing and mental health, fostering connections and resilience across students, faculty and staff. We will also make our locations more accessible to persons with mobility challenges or otherwise differently abled and will better coordinate and raise the visibility of education and research in disability studies. All of this will improve the daily experience of many at UBC.

*Strategy 4. **INCLUSIVE EXCELLENCE: Cultivate a diverse community that creates and sustains equitable and inclusive campuses***

We will review and revise policies, practices and services to reflect our commitment to diversity, equity and inclusion. We will expand learning opportunities across staff and faculty to create full awareness and understanding of these principles. We will assess the UBC landscape with a view toward identifying areas with a need for focused attention, including systems, structures and processes that can be improved to create better access and success. Enhanced diversity in leadership is a core enabler of effective university governance, and we will seek to create equitable opportunities for advancement and selection. We will promote continued research in issues connected with diversity, equity and inclusion. And we will establish and implement visible, system-wide accountability mechanisms and metrics that help us assess and manage our progress towards the establishment of *Inclusive Excellence*.

Strategy 5. SYSTEMS RENEWAL: Transform University-level systems and processes to facilitate collaboration, innovation and agility

To support UBC's academic mission and public mandate, we will transform the ways in which we work through improved administrative systems, fact-based decision-making and clear channels for community input. The goal is to enable, encourage and streamline collegial governance, enhanced collaboration and better transparency, especially across our Vancouver and Okanagan campuses. UBC has embarked upon an ambitious program to rebuild its student information, human resources, and financial management systems to improve their effectiveness and integration; timely implementation of these changes will remain a priority. We will consider carefully any academic policies, incentives and budget models that may be constraining collaboration and innovation, making changes where required to facilitate greater effectiveness.

Snapshot on People and Places: The accomplishments under the **Sustainability Strategy** are numerous and impressive. Emission reductions of 30% were notably achieved in less than five years through the *Climate Action Plan* (2010-2015), and concerted action is being taken towards the next target of 67% through the recent *Climate Action Plan Update*. The vision of the **Sustainability Strategy** features simultaneous improvements in human and environmental wellbeing with an expectation that, by 2035, sustainability be embedded across the university throughout teaching and learning, research, operations and infrastructure, and community development. The strategy is being implemented across many areas and through a variety of collaborations between the academy and operational units. Our efforts are intentional, inclusive and innovative, as evidenced in the emerging *Green Building Plan*. Metrics and targets are described in all areas, alongside strategies to reach further to accomplish them. UBC (2017) has some 400 faculty members working on sustainability-related research. The university offers about 50 sustainability-related degree programs and over 600 sustainability-oriented courses.

(LINK)

Core area: Research Excellence

Creating and mobilizing knowledge for impact

UBC is a research powerhouse. We are among leading universities in disciplinary research across many fields. Our breadth of research strength signifies a profound impact on many areas of society, from ground-breaking work on how infants acquire language to enabling personalized onco-genomics. As one indicator, in the world UBC ranks within the top 30 – and in many cases much higher – in specific disciplines, such as Psychology, Education, Law, Business and Economics, Life Sciences, Social Science and Computer Science (*THE* subject rankings). UBC's research strength is then translated into research-based teaching; students learn from the best in the world. Eight UBC-associated individuals have been awarded Nobel prizes and our researchers have won numerous other national and international awards. For example, our university community includes 256 Fellows of the Royal Society of Canada and 71 Rhodes Scholars.

Addressing the local and global challenges that we face today, such as climate change, the largest human migrations in the last half century and the societal shifts associated with increased automation, requires more than disciplinary depth of knowledge. Success requires collaboration within and across disciplines and communities. It demands both creation of new knowledge and accelerated translation of knowledge into action through interactions with external partners. And it requires resources for research services to enable researchers to achieve excellence in a highly competitive landscape. UBC researchers are willing and able to address these challenges, having already demonstrated the capacity for impact in many domains, such as the influential work of the *BC Center for Excellence in HIV/AIDS* in establishing the global standard of care that helped curb intensification of the HIV/AIDS pandemic. Through the plan, UBC will create environments that enable our researchers to optimize these contributions, harnessing disciplinary excellence and multidisciplinary

collaborations to address problems of significance to British Columbia and the world. UBC will also provide support for the translation of research beyond the academy, through public scholarship and innovation pathways ranging from changes in practice and policy to entrepreneurship and commercialization.

Impact comes in a variety of forms. Research might lead to spinoffs that take advantage of technological innovations. But impact is also to be found in projects that lead to social innovations, that change the way research in a certain field is conducted, that inform our understanding of history or culture, or that enrich us and our world through creative works. *Research Excellence* encompasses this broad vision of accomplishment. Our collective community aim is for UBC to be the place of choice for researchers – whether students, faculty, staff, alumni or external partners – to generate new knowledge and enable pursuits that positively impact the world.

Strategy 6. COLLABORATIVE CLUSTERS: Enable interdisciplinary clusters of research excellence in pursuit of societal impact

We will invest in and support emerging and established research clusters that consist of networks of diverse researchers working in pursuit of common aims. An initial pilot program to support clusters through the *UBC Excellence Fund* has already enhanced collaborations in areas such as green infrastructure and global challenges to democracy. *UBC Health* is facilitating collaboration in cross-cutting health research, including Indigenous health, mental health and diabetes. Building on these successes, we will provide researchers with the support needed to collaborate internally across UBC, and externally with local and global partners. Key components of this strategy will include enhanced research funding to attract postdoctoral fellows as well as faculty members, in order to strengthen our impact through these clusters.

Strategy 7. RESEARCH SUPPORT: Strengthen shared infrastructure and resources to support research excellence

UBC will improve support for researchers across the university through enhanced core facilities, spaces and services. These are imperative if researchers are to work effectively and productively. The equipment required to conduct globally leading research in many disciplines is sophisticated, requiring significant technical expertise to build and run. By creating capabilities such as the *Sequencing and Bioinformatics Consortium* for gene sequencing, we can provide state-of-the art facilities, training and expert advice for both UBC and external partners. We will explore ways to help researchers across all disciplines engage with communities and access scholarly resources. The pilot *Indigenous Research Support Initiative*, for example, provides support and services for Indigenous communities and researchers engaging in collaborative research. Increasingly, many disciplines require additional platforms to tackle challenging problems. For example, digital technologies are transforming work across the academy, as is evident in the creation and evolution of an online database of religious history that is changing how historical traditions are studied. UBC will enhance digital research infrastructure to provide researchers with physical and technical support in many areas of scholarship. Priorities include *Advanced Research Computing* (ARC) resources, technical and scientific support for research data management, data science, and local capacity for health researchers to address health research data access challenges.

Strategy 8. STUDENT RESEARCH: Broaden access to, and enhance, student research experiences

UBC will expand opportunities for undergraduates to gain first-hand experience in research, and we will strengthen graduate student and postdoctoral fellow research experiences. Engagement in research builds in students the ability to apply their learning, create new knowledge and utilize research skills. UBC will need to build on the success of such initiatives as the student-run *Undergraduate Research Opportunities* and *Undergraduate Research Awards* programs at UBC Vancouver and Okanagan

respectively, to develop better mechanisms to match undergraduate students with relevant research projects across the university, and to provide appropriate support. For graduate students and postdoctoral fellows, we will facilitate broadened research pathways, improve the mentorship and supervision that they receive, and create opportunities for them to provide mentorship to others. These experiences will provide a firm foundation in skills and expertise for future careers, whether in academia or beyond. Success in this strategy demands an institutional culture that promotes collaboration, inclusion and innovation. We will create an environment that enables such interactions across the university.

Strategy 9. KNOWLEDGE EXCHANGE: Improve the ecosystem that supports the translation of research into action

Many researchers are keen to find pathways for innovation. They want to engage with users of research and wider communities to exchange ideas, knowledge and evidence for societal impact. UBC will enhance existing pathways, including those that facilitate entrepreneurship and commercialization. To our current innovation ecosystem, we will add sector specialists, such as in life sciences, to help form collaborations with organizations and individuals beyond the academy that enable the translation of knowledge into policies and practice. We will build expertise in knowledge exchange, to help researchers across disciplines find and establish connections with community, corporate and international partners. Collaboration with organizations that help play a translational role, such as the *Centre for Drug Research and Development (CDRD)*, co-located in Vancouver with the Faculty of Pharmaceutical Sciences, will be integral to our efforts. And we will develop better support functions and connections across these multiple pathways. We will also continue to experiment with ways to communicate knowledge so that it is more accessible to a range of communities, from citizens to decision-makers.

Strategy 10. RESEARCH CULTURE: Foster a strong and diverse research culture that embraces the highest standards of integrity, collegiality and service

Research culture comprises the beliefs, expectations and actions of our researchers, including how they select and carry out research projects, review the efforts of peer researchers, mentor and assist colleagues near and far, engage with external research partners and influentially disseminate discoveries. UBC will develop further the principles and practices that define a collaborative and inclusive research culture, one that supports mentorship, scholarship, discovery and creativity. To address the problems facing society requires the contribution of all, and we will encourage diversity in perspective and approach. UBC will enable a research culture that interacts in positive and respectful ways with Indigenous people and Indigenous knowledge, and that welcomes the participation of members of other historically excluded groups. Their integrity, diversity and vibrancy are integral to UBC's future success.

Snapshot on Research Excellence: Working on problems from multiple perspectives, informed by a depth of expertise in different disciplines, can bring new insights and enable solutions to the hardest problems facing society. Forming partnerships and networks across disciplines requires support to enable new interactions and determine common foundations on which to build. UBC's research clusters program helps enable these collaborations to occur, coalescing activity and resource in areas of needed impact. At UBC Vancouver, the first year of the **Research Excellence Clusters Initiative** funded 25 clusters spanning performing and creative arts, science and engineering, health and the social sciences, and the humanities. The second competition in 2017 awarded 33 clusters across all disciplines, sixteen of which were renewal awards. At UBC Okanagan, five research clusters funded through the **Eminence Program** are investigating such issues as community health and neurobiology. Interdisciplinary research is also being supported through creating *President's Excellence Chairs* in diverse areas, from media studies to brain health. Research clusters exemplify strategic focus in all three themes (inclusion, collaboration and innovation), and they serve as a demonstration project for the cultural and behavioural transformation change envisaged in this plan.

(LINK <https://research.ubc.ca/about-vpri/initiatives/research-excellence-clusters/current-research-excellence-clusters> for updates on current clusters)

Core area: Transformative Learning

*Enabling learning through evidence-based teaching,
mentorship and enriched experiences*

At its best, education is transformative and has a lasting and continuing impact on the learner. UBC is renowned for the excellence and breadth of its education and has a long-established track record in teaching and learning innovation. UBC has built transformative programs like *Arts One*, *Science One* and *MECH 2* (Engineering), which give students dynamic interdisciplinary learning experiences and provide faculty with rich environments to develop and study creative and effective approaches to teaching. Beyond individual programs, UBC supports transformative learning through initiatives that have involved hundreds of faculty members and impacted thousands of students. The *Carl Wieman Science Education Initiative* features extensive evaluation of learning gains and substantial research output on the scholarship of teaching and learning. It is a model now adopted widely by other institutions. *Flexible Learning* is a university-wide effort to explore technology-enabled teaching innovation. Since its inception in 2013, *Flexible Learning* has adopted a team-based and scholarly approach to foster, support and evaluate blended learning and teaching enhancement projects that have impacted over 400 courses and 40,000 students. Thousands of students across the university participate in experiential or work-integrated learning each year. The Faculty of Medicine organizes undergraduate medical education through a distributed model that combines face-to-face, online and experiential learning, with many graduates choosing to stay and practice in rural locations as a result. *Transformative Learning* extends also to the broader community, for example, where people from Vancouver's Downtown Eastside are engaged with faculty and students at the *UBC Learning Exchange* or through the Humanities 101 courses, and from downtown Kelowna at the *UBC and Kīlow-Na Friendship Society*.

But changes in learner demographics and interests are reshaping the university. A rapidly diversifying economy, social context and job market demand a different kind of education – one with a greater focus on competencies and transferable skills such as critical thinking, collaboration and communication, and one that promotes and supports continuous learning. To keep pace with the information age, and to meet the increasing expectations of students and employers, universities are investing in active, experiential and online models of education. The best among these efforts capitalize on the curiosity and drive inherent in our students, allowing them to become co-creators of their education. Universities must extend their traditional offerings, based on pedagogical research, to serve our populations better and must rethink programs, spaces and facilities to enable new ways of learning. Faculty and staff are working hard to deliver technological advances. Universities need to support them in this effort.

Our activities will focus on enhanced support for program redesign around competencies, development of problem-solving experiences, technology-enabled learning and continued growth in work-integrated and professional education. Sustained progress in *Transformative Learning* will require leadership across the institution to model, inspire and celebrate excellence in teaching and mentorship. UBC's commitment to its *Educational Leadership Stream* faculty, for whom education is their sole focus at the university, is a bold statement about our intent, and these colleagues will play a pivotal role.

Strategy 11. EDUCATION RENEWAL: Facilitate sustained program renewal and improvements in teaching effectiveness

UBC will provide greater support for instructors in their drive to be highly effective teachers and to develop their craft. Practices that engage student curiosity and initiative will be particularly emphasized and valued through appointment, tenure, promotion and merit processes. We will expand opportunities for graduate students to learn about teaching in addition to research. More broadly, we will work with faculty, graduate students and postdoctoral fellows to reimagine and strengthen graduate programs as

career paths continue to diversify. The university will also sustain and evolve efforts to support faculty members in the ongoing integration of evidence-informed pedagogies into their classrooms and encourage innovations that have the potential to improve upon traditional learning approaches. Online and blended education, predicated on a clear understanding of the requirements of different learner 'segments', will be areas of focus in experimentation and evaluation, both on campus and through open platforms. These modalities offer access, connectivity and interaction possibilities that can enhance campus-based learning. In appropriate contexts, they can remove the need for physical co-location.

Strategy 12. PROGRAM REDESIGN: Reframe undergraduate academic program design in terms of learning outcomes and competencies

Like most universities, UBC has traditionally organized its curriculum around a structure of credit hours delineated by courses. The Faculties of Medicine and Arts have adopted more flexible program structures organized around learning outcomes, which allows students to progress through a finer grained set of learning experiences based on building competencies. UBC will move further towards using learning outcomes as a primary organizing principle of program structure and completion. This approach will be better at engaging student curiosity and initiative because it will allow for a more individualized approach to supporting learning with clearer feedback to help students focus on competencies they have yet to master. Our plans here must be made with care, as many disciplines face highly structured accreditation requirements and course structures including many necessary prerequisites. Efforts to redesign programs will need to respect these and will involve strong collaborations between faculty and students, and in many cases, alumni. The process will be treated as an opportunity to build a better understanding of student learning and how it can be supported most effectively.

Strategy 13. PRACTICAL LEARNING: Expand experiential, work-integrated and extended learning opportunities for students, faculty, staff and alumni

We will work with industry and community partners, as well as alumni, to expand experiential learning – ‘learning by doing’ – across academic programs, and to enhance career services. Where these connections extend beyond the province, they will create opportunities for UBC to broaden its perspective and capacity for influence. We will also strengthen efforts for students to develop professional skills while studying, including the *Work Learn Program* at UBC Vancouver that supports and subsidizes meaningful work experiences on campus. All these efforts will improve the ability of our graduates to secure meaningful employment. Through *UBC Extended Learning (ExL)*, we will support faculty members in growing online and other accessible offerings in response to evolving demand – both professional and personal – for working practitioners and lifelong learners, many of whom are UBC alumni. Scholarly communication is a skill consistently ranked at the top of those required beyond the degree. In collaboration with all Faculties at UBC Vancouver, the Faculty of Arts will create a unit to house academic and professional communications curricula and related services. Our ability to make progress in this strategy is predicated on strong industry and community relationships; we will work hard to deepen and better coordinate these connections. It is also incumbent on the university to infuse a passion for continuous learning among our students, faculty and staff.

Strategy 14. INTERDISCIPLINARY EDUCATION: Facilitate the development of integrative, problem-focused learning

We will further develop academic structures that foster and support opportunities for students from different perspectives and disciplines to work together on complex or emergent problems. Students develop toward expert thinking faster when they are given well-designed opportunities to integrate concepts they have learned across several courses to tackle new, larger issues and problems. When we have students work with other students from a range of programs, each with their own expertise, the result

is a rich, high-level learning experience that builds expertise in ways no individual, discipline-based course can achieve. The *Social Ecological Economic Development Studies* (SEEDS) program is an example of this approach, engaging students across the university in project work that tackles real-life issues such as waste and the opioid crisis. UBC will pilot and assess new ways to integrate problem-focused educational opportunities as an overlay or complement to traditional majors and minors. We will also optimize structures to allow the flourishing of integrative graduate and postdoctoral learning. In this way, we can work toward a day when UBC students can graduate with disciplinary expertise *and* a set of experiences and skills that address their passion for a specific topic or challenge.

Strategy 15. STUDENT EXPERIENCE: Strengthen undergraduate and graduate student communities and experience

Through a continued focus on the student experience – outside as well as inside the classroom, across all our campuses and learning sites – we will create opportunities for students to feel more engaged and better supported during their time at UBC. We will expand holistic, developmental and professional student advising and engagement to support students in determining and realizing academic, career and personal goals. This will enable our students to become self-directed learners able to navigate – and increasingly shape – their pathways through courses and curriculum. We will heighten efforts to ensure the provision of mental health resources for all our student populations. Working closely with student government, the university will improve coordination across student services, teaching and learning, co-curricular programming, residential life and commuter student experience. We will continue to develop and improve student ‘hubs’, such as the *AMS Nest* on the Vancouver campus and the *Student Union* on the Okanagan campus. Attention to student wellbeing is afforded by major investments in *UBC Recreation* facilities, and initiatives such as *Jump Start* and the *Collegia* seek to help first-year students find their places at UBC. Our work will foster a

greater sense of belonging, predicated on personal growth within smaller, diverse communities in the context of a large and complex community.

Snapshot on Transformative Learning: Arts One is an established program that features learning in small groups with an integrated, interdisciplinary curriculum. Every year, students choose between two themes, such as *“Knowledge and Power”* or *“Hero, Anti-Hero”*, each led by a dynamic team of instructors from different disciplines. Together, students and instructors analyze ancient and contemporary works that have shaped and challenged society across the centuries. **Arts One** students engage throughout this eight-month program in their learning via expert lectures, seminar discussions and small student-centred tutorials, in which they present and workshop their essays. These tutorials form one of the most distinctive and valuable **Arts One** experiences, fostering independent thinking and scholarly ways of knowing that allow students to thrive beyond the first year. **Arts One** delivers transformative learning experiences through a commitment to excellent program design and regular renewal. It embodies the understanding that study in humanities disciplines such as philosophy, history and literature cultivates empathy, perspective taking and critical thinking. And it fosters these competencies in the context of both enduring challenges, such as class and power, and emergent ones, such as technological and environmental disruption. [\(LINK\)](#)

Core area: Local and Global Engagement

*Engaging ethically through the exchange
of knowledge and resources for everyone's benefit*

UBC is locally integrated and globally connected; it has always been a place of community engagement. Indeed, global perspective is embedded in the histories and communities that have shaped the local context in British Columbia and at UBC. The balance of Canadian perspective and geographic diversity across our student population is a tremendous strength: how we work together is what sets us apart. Across UBC, faculty, students and staff embody this work in the context of community-engaged research, learning and public service. Local and regional examples include the research forests that promote smart management of some of the province's greatest resources; the *Regional Socio-Economic Development Institute of Canada*, established at UBC Okanagan to build an understanding of how institutions can function as active participants and drivers in the regional innovation ecosystem; the nearly 200 public events hosted by UBC Okanagan, 55% of them in the community; the Portland *Community Clinic* that provides not-for-profit dental services in Vancouver's Downtown Eastside; and the *Patient and Community Partnership for Education* that seeks to effect changes in health curriculum and practice in response to public input. Diverse cultural venues such as *MOA (the Museum of Anthropology)*, *Beatty Biodiversity Museum*, *UBC Botanical Garden* and *Pacific Museum of the Earth* support community learning and enrichment.

Our global networks open new vistas for research and create educational opportunities that would not otherwise exist. They also enable UBC to help mobilize positive change across the world and to assist our partners in making progress in their own goals. We have many close and productive associations with universities and organizations throughout North America, Europe, Australia and New Zealand, Africa and

Latin America. UBC's Asia-Pacific connections, built over many years, have yielded a powerful set of partnerships and academic exchanges. UBC is regarded as an educational and policy gateway to China, with the *China Council* playing a key role in collating knowledge, and in catalyzing, facilitating and supporting engagement. UBC boasts the top Asian Studies department in Canada as well as the oldest and largest Punjabi language program in the country, a model of community-engaged learning. Many other units have developed distinctive research and curriculum strengths oriented toward Asia. Of special note are the increasing numbers of UBC alumni of East, South, Southeast, Central and West Asian heritage, who bring expertise and deep connections to the community when they interact with UBC.

We must continue to play a strong role in engagement, learning about the world around us and empowering people to be good stewards and change makers. This requires an outward orientation in our education, research and community development. It requires a willingness to collaborate and connect, with the passion for engagement that is a part of the fabric of UBC. It requires structures and processes to support the students, faculty and staff who make robust contributions to the intellectual, cultural and economic lives of our communities. It requires UBC to become more open and navigable to external partners. And it requires the capacity to listen and adapt as the needs and dynamics of the world beyond the university evolve. We will sustain the important work of engagement and expand its scope to connect our local and global efforts more effectively. Our engagement with Asia has a regional and national reflection in our growing engagement with Asian Canadian communities. Our commitment to improved engagement with Indigenous people is anchored in, but extends beyond, British Columbia. We will also sustain our focus on building meaningful relationships with UBC alumni the world over. Students are involved in much of this activity, whether on campus, in the community or abroad; we will expand the opportunities for them to participate.

Strategy 16. PUBLIC RELEVANCE: Deepen the relevance and public impact of UBC research and education

We will work, through dialogue and knowledge exchange, to align UBC's efforts more closely with priority issues in British Columbia and beyond. This will also help ensure that the public is more consistently aware of UBC's academic endeavours. It is important that we recognize the different strengths and local contexts of our Vancouver and Okanagan campuses as we consider the opportunities for engagement. From a base (2017) of 130 new community-based and action research projects and learning initiatives that place more than 5,000 students in community settings annually, we will work more closely with our partners to ensure that these are well conceived, managed and evaluated from all perspectives. The School of Public Policy and Global Affairs, established in 2017, is an example of this approach. Its goal is to catalyze a network of scholars, students, external partners and civil society to foster collaboration, creativity and intercultural understanding. This will contribute to the solution of problems of local importance and global consequence. Programs such as the *Public Scholars Initiative*, which builds connections and capacity for PhD students interested in explicitly linking their doctoral work to an area of public benefit, will remain a component of this strategy. We will work with government and industry to enhance British Columbia as a place to do business. And we will specifically seek opportunities to collaborate with government and peer institutions to strengthen and realign the post-secondary education system for the benefit of students and citizens in the province.

Strategy 17. INDIGENOUS ENGAGEMENT: Support the objectives and actions of the renewed Indigenous Strategic Plan

Much of the guidance for UBC's Indigenous engagement can be traced back to the first *Aboriginal Strategic Plan* (2009), which outlined 10 Key Areas of Strategic Engagement, and beyond that to the *UBC-Musqueam Memorandum of Affiliation* (2006), the first such agreement in Canada. The plan and the Memorandum have been models of effective action, with Implementation Reports published in 2010, 2012 and 2014. UBC

will adopt a similar approach in implementing *Shaping UBC's Next Century*. The 2018 *Indigenous Strategic Plan* will continue that work and represent our shared commitment as a university community ([LINK](#)). The *Indigenous Strategic Plan* will also provide the framework for statements of Faculty- and unit-level commitments that will form UBC's response to the *Calls to Action* released in 2015 by the *Truth and Reconciliation Commission of Canada*.

Strategy 18. ALUMNI ENGAGEMENT: Reach, inspire and engage alumni through lifelong enrichment

Consistent with the *alumni UBC plan: Connecting Forward* ([LINK](#)), we will work with *alumni UBC* and together with targeted efforts across Faculties and departments, to broaden and deepen engagement through programs that cultivate pride, empower personal growth, support professional development and enable contribution. The plan builds on the vision of a *global alumni community for an exceptional UBC and a better world*; its strategic imperatives are to extend engagement to 50% of all alumni, and to double the number of alumni more deeply involved at UBC. Many alumni are in a strong position to provide mentorship and encouragement, connections and collaboration with current students, faculty members and staff. UBC is also in a strong position to provide opportunities for alumni to update skills, to change careers or to engage in lifelong learning. We will seize upon opportunities to extend the reach of our alumni programs, services and communications by continuing to increase the effective use of digital technology and digital platforms. The *Robert H. Lee Alumni Centre* on the Vancouver campus, opened in 2015, provides a fitting hub for much of this engagement.

Strategy 19. GLOBAL NETWORKS: Build and sustain strategic global networks, notably around the Pacific Rim, that enhance impact

As of 2017, UBC partners with 11 of the 15 top-ranked universities in the world in research and educational activities and has partnership agreements with more than 300 universities and research institutions in more than 50 countries. We will prioritize and support collaborations that benefit the world and our partners — as well as create value

at UBC — and foster new alliances in areas of shared, strategic importance. We have an opportunity to leverage UBC's location and diversity to strengthen further our Pacific Rim engagement, both enhancing our capacity for regional and international influence and contributing to social cohesion more broadly. We will support mechanisms, such as the *China Council*, to advance our relationships and extend our connectedness. We will also simplify processes for international collaboration. Finally, we will continue to expand opportunities for faculty exchanges, for our students to study abroad through *Go Global* and other initiatives, and for international students to participate in exchange programs at UBC. Through partnership, both at home and abroad, we will help students, faculty members and staff broaden their perspectives, learn from peers and colleagues around the globe, and contribute to a shared positive impact.

Strategy 20. COORDINATED ENGAGEMENT: Co-create with communities the principles and effective practices of engagement, and establish supporting infrastructure

Community engagement at UBC has been part of research, teaching, service and student-led initiatives since the institution was founded. We will work with diverse partners to listen, learn and develop shared values for effective engagement. We will better align our structures, processes, funding and incentives to reinforce effective practices consistent with these values and to reinforce a culture of reciprocity. We will also seek to coordinate our engagement efforts and remove barriers to community engagement. The establishment of a joint framework for engagement with local and global partners is the first step. To shift the prevailing model and mindset, UBC will increase support for students, faculty members and staff working with, and in, the community. We will create mechanisms for our partners to access and navigate the university. This strategy also extends to deepening our engagement with campus neighbourhoods to support the unique and vibrant experience of living at UBC.

Snapshot on Local and Global Engagement: Given the historical importance of Asian migration to Canada – and to British Columbia specifically – UBC is intent on building stronger connections with established and growing Asian Canadian communities.

An example is the 2011 Senate approval of measures to commemorate the 76 Japanese Canadian UBC students who were forcibly removed from the university and their homes on the west coast in 1942 after the start of World War II. The creation of the *Asian Canadian and Asian Migration Studies Program* is another notable milestone. This program in the Faculty of Arts responds to community issues and concerns by providing opportunities for students to engage in multidisciplinary learning and research through community-based activity. The **Asian Canadian Community Engagement (ACCE) Committee** includes faculty and staff from multiple units and functions as a hub to cultivate respectful community engagement to bolster's UBC's academic mission. [\(LINK\)](#)

IV. Other institutional plans

Shaping UBC's Next Century is a strategic plan for the University of British Columbia. It acts as a roadmap to help guide, connect and support other institutional plans. In addition to the university-wide plans referenced throughout the document (*Indigenous Strategic Plan, Sustainability Strategy, alumni UBC Plan, Wellbeing Strategic Plan, UBC Plan in Health*), a selection of campus and Faculty plans from different areas of the university are referenced below.

Vancouver campus

Faculty of Applied Science ([LINK TO PLAN](#))

Faculty of Arts ([LINK TO PLAN](#))

Sauder School of Business ([LINK TO PLAN](#))

Faculty of Dentistry ([LINK TO PLAN](#))

Faculty of Education ([LINK TO PLAN](#))

Faculty of Forestry ([LINK TO PLAN](#))

Faculty of Land and Food Systems ([LINK TO PLAN](#))

Peter A. Allard School of Law ([LINK TO PLAN](#))

Faculty of Medicine ([LINK TO PLAN](#))

Faculty of Pharmaceutical Sciences ([LINK TO PLAN](#))

Faculty of Science ([LINK TO PLAN](#))

Graduate and Postdoctoral Studies ([LINK TO PLAN](#))

Okanagan campus

Aspire (UBC Okanagan visioning plan) ([LINK TO PLAN](#))

Irving K. Barber School of Arts and Sciences ([LINK TO PLAN](#))

Faculty of Creative and Critical Studies ([LINK TO PLAN](#))

Faculty of Education ([LINK TO PLAN](#))

Faculty of Applied Science – School of Engineering ([LINK TO PLAN](#))

Faculty of Health and Social Development ([LINK TO PLAN](#))

Faculty of Management ([LINK TO PLAN](#))

DRAFT

V. Implementation and accountability

The plan provides thoughtful guidance for action. It is a framework for decision-making, allocation of effort and resources, and evaluation of progress across the university. The plan also provides guidance for engagement beyond our campuses and associated research and learning sites. Faculties and others will review their respective strategic plans and identify opportunities for alignment and synergy.

The next steps are the translation of these strategies to actions and the creation of project plans to guide and align our efforts. Some of these actions will be ongoing, possibly requiring adjustment, different forms of support or additional funding; many will be new, arising in response to the direction and focus of ***Shaping UBC's Next Century***. Some of the latter can or must be initiated in the first year or two of the plan; others will follow. Some will be cross-cutting initiatives; others will be specific to one or more units. All these actions will be revisited and renewed annually.

We intend to be thorough and rigorous in implementation. The actions should have responsible leadership, accountable for budgets and progress. The project plans should be public, with milestones and measures to provide assurance about progress. Where possible, we should pilot ideas and assess outcomes before making wholesale change. The plan is intended to encompass most activity across the university, rather than reflect a collection of ancillary tasks. It will accordingly act as a useful mechanism for determining also what we might be able to stop or defer doing.

We will continue to seek input from students, faculty, staff, alumni and partners as we move forward. We will track our progress against the objectives of the strategic plan and will check and revise our direction and focus in response to changes both within and beyond the university. Ongoing discussion around prioritization, dependencies and capacity will be critical. We are committed to ensuring that our people and teams are appropriately resourced, supported and connected in the various initiatives that constitute the plan. Only in these ways can we fully achieve our vision.



28 February 2018

To: Vancouver Senate

From: Senate Academic Policy Committee

Re: Faculty of Graduate and Postdoctoral Studies Policies on the
Supervision of Graduate Students and Membership in the Faculty
of Graduate and Postdoctoral Studies

The Faculty of Graduate and Postdoctoral Studies (G&PS) has forwarded revisions to the policies on the supervision of graduate students and membership in the Faculty.

Editorial changes are proposed in order to clarify which ranks are not eligible for membership in the Faculty. The ranks that the University uses change over time and these edits bring the policy up-to-date.

Faculty members from the Okanagan campus have expressed interest in supervising graduate students who are enrolled at the Vancouver campus. There is also a desire to foster connections with the Okanagan campus. The changes to the policy allow members of the College of Graduate Studies (CoGS) on the Okanagan campus to co-supervise graduate students or serve on a supervisory committee without the approval of G&PS. (Only the approval of the department and/or graduate program will be needed.) If a member of CoGS wishes to be the sole supervisor for a graduate student enrolled at the Vancouver campus, the approval of G&PS will be required.

The Senate Academic Policy Committee has reviewed the changes in the attached two-column form and the following is recommended to Senate:

Motion: *“That Senate approved the proposed revisions to the Faculty of Graduate and Postdoctoral Studies policies on membership in the Faculty and the supervision of graduate students as set out in the attached form.”*

Respectfully submitted,

Dr. Paul Harrison, Chair
Senate Academic Policy Committee

**UBC Policy Proposal Form
Change to Calendar**

| | |
|---|---|
| <p>Faculty: Faculty of Graduate and Postdoctoral Studies</p> <p>Department: N/A</p> <p>Faculty Approval Date: 11 January 2018</p> <p>Effective Session (W or S): W</p> <p>Effective Academic Year: 2018-19</p> | <p>Date: 23 January 2018</p> <p>Contact Person: Dr. Larry Walker, Senior Associate Dean, G+PS</p> <p>Phone: 604-827-5546</p> <p>Email: lawrence.walker@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Members</p> <p>The following text is based on the UBC Senate policy entitled “Faculty Membership in the Faculty of Graduate and Postdoctoral Studies”.</p> <p>The full and unedited text of this policy is available from the UBC Senate.</p> <p>Faculty Membership in the Faculty of Graduate and Postdoctoral Studies</p> <p>The Faculty of Graduate and Postdoctoral Studies is dedicated to maintaining a rich academic environment for every student in the Faculty. Among other things, the Faculty oversees the academic quality and integrity of its graduate programs, and ensures that graduate students are provided with training in research and other scholarly activities of the highest standard.</p> <p>Faculty Membership</p> <p>The Faculty of Graduate and Postdoctoral Studies consists of the President, Vice-President Academic, Vice-President Research, the Dean and Associate Deans of</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,350,773</p> <p>Present Calendar Entry:</p> <p>Members</p> <p>The following text is based on the UBC Senate policy entitled “Faculty Membership in the Faculty of Graduate and Postdoctoral Studies”.</p> <p>The full and unedited text of this policy is available from the UBC Senate.</p> <p>Faculty Membership in the Faculty of Graduate and Postdoctoral Studies</p> <p>The Faculty of Graduate and Postdoctoral Studies is dedicated to maintaining a rich academic environment for every student in the Faculty. Among other things, the Faculty oversees the academic quality and integrity of its graduate programs, and ensures that graduate students are provided with training in research and other scholarly activities of the highest standard.</p> <p>Faculty Membership</p> <p>The Faculty of Graduate and Postdoctoral Studies consists of the President, Vice-President Academic, Vice-President Research, the Dean and Associate Deans of</p> |



the Faculty of Graduate and Postdoctoral Studies, deans of other faculties, and appropriately qualified members of the University faculty.

Members

Members of the Faculty of Graduate and Postdoctoral Studies must be tenured or tenure track (including grant tenured or grant tenure track) faculty members holding the rank of assistant professor, associate professor, or professor. Members must be approved by their disciplinary faculty (or functional equivalent) for membership in the Faculty of Graduate and Postdoctoral Studies and must meet the criteria established by the graduate programs with which they are affiliated. Members of the Faculty of Graduate and Postdoctoral Studies may supervise graduate students, chair examining committees, and vote at Faculty general meetings.

Members of the Faculty of Graduate and Postdoctoral Studies may continue as members upon retirement, provided they are approved by their disciplinary faculty (or functional equivalent) for membership in the Faculty of Graduate and Postdoctoral Studies and continue to meet the criteria established by their graduate program for membership in the Faculty of Graduate and Postdoctoral Studies. Membership notwithstanding, a retired faculty member may supervise or co-supervise graduate students as provided for by her or his disciplinary faculty.

Persons holding the following ranks are not eligible for membership in the Faculty of Graduate and Postdoctoral Studies: Adjunct Professors, Honorary Professors, Visiting Professors, Professors of Teaching,

the Faculty of Graduate and Postdoctoral Studies, deans of other faculties, and appropriately qualified members of the University faculty.

Members

Members of the Faculty of Graduate and Postdoctoral Studies must be tenured or tenure track (including grant tenured or grant tenure track) faculty members holding the rank of assistant professor, associate professor, or professor. Members must be approved by their disciplinary faculty (or functional equivalent) for membership in the Faculty of Graduate and Postdoctoral Studies and must meet the criteria established by the graduate programs with which they are affiliated. Members of the Faculty of Graduate and Postdoctoral Studies may supervise graduate students, chair examining committees, and vote at Faculty general meetings.

Members of the Faculty of Graduate and Postdoctoral Studies may continue as members upon retirement, provided they are approved by their disciplinary faculty (or functional equivalent) for membership in the Faculty of Graduate and Postdoctoral Studies and continue to meet the criteria established by their graduate program for membership in the Faculty of Graduate and Postdoctoral Studies. Membership notwithstanding, a retired faculty member may supervise or co-supervise graduate students as provided for by her or his disciplinary faculty.

Persons holding the following ranks are not eligible for membership in the Faculty of Graduate and Postdoctoral Studies: Adjunct Professors, Honorary Professors, Visiting Professors, Professors of Teaching,



Senior Instructors, **Instructors, Lecturers, Acting Assistant Professors, UBC Okanagan professors.**

Members of the Faculty of Graduate and Postdoctoral Studies are listed under the [degree programs](#) with which they are associated.

Supervision of Graduate Students by Other Faculty

Other appropriately qualified individuals (e.g., clinical professors, adjunct professors, professors of teaching, senior instructors, or visiting professors) who are actively engaged in research and experienced with graduate education may be approved, upon the recommendation of the head, director, or dean (or functional equivalent) of the graduate programs with which they are affiliated and the approval of the Dean of the Faculty of Graduate and Postdoctoral Studies, to supervise or co-supervise master's and doctoral students and/or serve on doctoral student supervisory committees provided they meet the relevant criteria. These individuals are not members of the Faculty of Graduate and Postdoctoral Studies.

Approval for individuals who are not members of the Faculty of Graduate and Postdoctoral Studies to serve as members of master's students' supervisory committees is the responsibility of the graduate program concerned.

Members in good standing of the College of Graduate Studies from the UBC Okanagan campus may co-supervise UBC-V master's and doctoral students and/or serve on master's and doctoral student supervisory committees without requiring

~~UBC Okanagan Professors~~, Senior Instructors.

Members of the Faculty of Graduate and Postdoctoral Studies are listed under the [degree programs](#) with which they are associated.

Supervision of Graduate Students by Other Faculty

Other appropriately qualified individuals (e.g., clinical professors, adjunct professors, professors of teaching, senior instructors, or visiting professors) who are actively engaged in research and experienced with graduate education may be approved, upon the recommendation of the head, director, or dean (or functional equivalent) of the graduate programs with which they are affiliated and the approval of the Dean of the Faculty of Graduate and Postdoctoral Studies, to supervise or co-supervise master's and doctoral students and/or serve on doctoral student supervisory committees provided they meet the relevant criteria. These individuals are not members of the Faculty of Graduate and Postdoctoral Studies.

Approval for individuals who are not members of the Faculty of Graduate and Postdoctoral Studies to serve as members of master's students' supervisory committees is the responsibility of the graduate program concerned.

Teaching

Teaching of graduate courses is the responsibility of the disciplinary unit, department, or faculty.

For more information on the membership policy and administrative procedures, or



approval from the Faculty of Graduate and Postdoctoral Studies. Approval for UBC-O faculty in these roles is the responsibility of the graduate program concerned. Note that sole supervision of UBC-V master's and doctoral students by UBC-O faculty does require the approval of the Faculty of Graduate and Postdoctoral Studies, upon the recommendation of the graduate program concerned. According to [UBC Okanagan Senate Policy O-4](#), membership in the College of Graduate Studies includes all tenured or tenure-track (including grant tenured or grant tenure-track) faculty members holding the rank of Assistant Professor, Associate Professor, or Professor approved by their Faculty for membership in the College. These individuals are not members of the Faculty of Graduate and Postdoctoral Studies.

Teaching

Teaching of graduate courses is the responsibility of the disciplinary unit, department, or faculty.

For more information on the membership policy and administrative procedures, or other UBC Senate policies, please visit the [UBC Senate](#).

other UBC Senate policies, please visit the [UBC Senate](#).

Type of Action:

Revisions to this policy clarify which faculty ranks are not eligible for membership in the Faculty of Graduate and Postdoctoral Studies.

The revisions also grant some supervisory privileges to UBC Okanagan faculty of UBC Vancouver graduate students without requiring further approval from G+PS; instead that approval process has been delegated to the graduate programs involved.

Rationale for Proposed Change:

The revised policy removes the requirement that formal approval from G+PS is required for co-supervision of UBC-V graduate students by UBC Okanagan faculty or for membership on graduate student supervisory committees. This represents an attempt to broaden the supervisory resources available to graduate students and accords within the fact that UBC Okanagan faculty are held to the same standards for tenure and promotion as UBC Vancouver faculty. Graduate programs can continue to impose more restrictive requirements for supervisory privileges. Approval of sole supervision of UBC-V graduate students by UBC Okanagan faculty will continue to require the approval of G+PS given that UBC-V graduate students should normally be resident on the Vancouver campus and given the importance of ensuring adequate supervision for student success.



16 February 2018

To: Vancouver Senate

From: Admissions Committee

Re:

- a) Bachelor of Dental Science, Dental Hygiene – Reinstatement of Admission of Direct-Entry Admission (approval)
- b) Master of Engineering Leadership and Master of Health Leadership and Policy – English Language Proficiency Standards (approval)
- c) Master of Engineering Leadership and Master of Health Leadership and Policy – Transfer Credit (approval)
- d) Master of Engineering – Changes in Admission Requirements and Transfer Credit Policy (approval)
- e) Master of Science in Geophysics – Changes in Admission Requirements (approval)
- f) Faculty of Land and Food Systems – Admission (approval)

- a) Bachelor of Dental Science, Dental Hygiene – Reinstatement of Admission of Direct-Entry Admission (approval)

The Committee has reviewed and recommends to Senate the reinstatement of admission to the Bachelor of Dental Science, Dental Hygiene program. Admission to the program via the Degree Completion Admission Option has been suspended since 2015, pending a detailed review of the program. Since then, the program has strengthened its student support mechanisms, reviewed learning outcomes, and revised the admission process. The attached proposal also includes a number of editorial changes for clarification.

Motion: *That Senate approve the reinstatement of admissions to the Bachelor of Dental Science in Dental Hygiene Degree Completion Admission Option, revised admission requirements and associated Calendar changes, effective for entry to the 2019 Winter Session and thereafter.*

- b) Master of Engineering Leadership and Master of Health Leadership and Policy – English Language Proficiency Standards (approval)

The Committee has reviewed and recommends to Senate for approval changes in English language proficiency requirements for admission to the Master of Engineering Leadership (Advanced Materials Manufacturing; Clean Energy Engineering; Dependable Software Systems; Green BioProducts; High Performance Building, Integrated Water Management; Naval Architecture and Marine Engineering; Smart Grid Energy Systems; UrbanSystems); and Master of Health Leadership and Policy (Clinical Education; Senior Care) programs. The proposed changes bring English language requirements for admission to the MEL and MHL programs into alignment with the minimum requirements for admission to programs administered by the Faculty of Graduate and Postdoctoral Studies.



Motion: *That Senate approve changes in English language proficiency requirements for admission to the Master of Engineering Leadership (Advanced Materials Manufacturing; Clean Energy Engineering; Dependable Software Systems; Green BioProducts; High Performance Building, Integrated Water Management; Naval Architecture and Marine Engineering; Smart Grid Energy Systems; UrbanSystems); and Master of Health Leadership and Policy (Clinical Education; Senior Care) programs for entry to the 2018 Winter Session and thereafter.*

- c) Master of Engineering Leadership and Master of Health Leadership and Policy – Transfer Credit (approval)

The Committee has reviewed and recommends to Senate for approval transfer credit regulations for students in the Master of Engineering Leadership (Advanced Materials Manufacturing; Clean Energy Engineering; Dependable Software Systems; Green BioProducts; High Performance Building, Integrated Water Management; Naval Architecture and Marine Engineering; Smart Grid Energy Systems; UrbanSystems); and Master of Health Leadership and Policy (Clinical Education; Senior Care) programs. There are currently no transfer credit regulations in place for students in these programs. The proposal outlines the requirements for and maximum transfer credits allowed.

Motion: *To approve the regulations for transfer credit for students in the Master of Engineering Leadership (Advanced Materials Manufacturing; Clean Energy Engineering; Dependable Software Systems; Green BioProducts; Integrated Water Management; Naval Architecture and Marine Engineering; Smart Grid Energy Systems; Urban Systems); and Master of Health Leadership and Policy (Clinical Education; Senior Care) for the 2017 Winter Session and thereafter.*

- d) Master of Engineering – Changes in Admission Requirements and Transfer Credit Policy (approval)

The Committee has reviewed and recommends to Senate for approval Calendar revisions to the Master of Engineering entry. The proposed changes are editorial and reflect current program requirement information.

Motion: *That Senate approve Calendar changes to the Calendar entry on Master of Engineering, effective for the 2018 Winter Session and thereafter.*

- e) Master of Science in Geophysics – Changes in Admission Requirements (approval)

The Committee has reviewed and recommends to Senate for approval changes to admission requirements for applicants to the Master of Science in Geophysics. Effective for entry to the 2018 Winter Session, applicants are no longer required to present an honours bachelor degree for admission.



Motion: That Senate approve changes in admission requirements for applicants to the Master of Science in Geophysics, effective for entry to the 2018 Winter Session and thereafter.

f) Faculty of Land and Food Systems – Admission (approval)

The Committee has reviewed and recommends to Senate for approval changes in admission for undergraduate programs in the Faculty of Land and Food Systems. The proposed changes are to clarify policies, add content on admission for different categories of applicants, and information on readmission to the program.

Motion: That Senate approve changes in admission and readmission requirements for applicants to undergraduate programs in the Faculty of Land and Food Systems, effective for admission to the 2018 Winter Session and thereafter.

Respectfully submitted,

Prof. Carol Jaeger, Chair
Senate Admissions Committee

UBC Admissions Proposal Form

| | |
|--|--|
| <p>Faculty: Dentistry Department: Dean's Office Faculty Approval Date: November 30, 2017 Effective Session (W or S): for 2018 Calendar release Effective Academic Year: For students entering the B.D.Sc. (Dental Hygiene) program in September 2019</p> | <p>Date: 30 November, 2017 Contact Person: Vicki Koulouris Phone: 2-4486 Email: vkoulouris@dentistry.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Homepage > Faculties, Colleges, and Schools > The Faculty of Dentistry > Dental Hygiene Degree Program</p> <p>The Faculty of Dentistry offers a multiple admissions approach to the Dental Hygiene Degree Program. The admission options or entry points are:</p> <ol style="list-style-type: none"> 1. Entry-to-Practice Admission Option The Entry-to-Practice admission option, open to secondary school graduates and applicants with post-secondary education, is the entry point to full-time, four-year studies at UBC that includes development of the knowledge base and pre-clinical and clinical skills required to earn the B.D.Sc. degree in Dental Hygiene and become a registered dental hygienist (RDH). 2. Dental Hygiene Degree Completion Admission Direct Entry Option Direct Entry Admission Option NOTE: The Faculty of Dentistry is not accepting applications to the Direct Entry admission option at this time. 2. Dental Hygiene Degree Completion Admission Option The Dental Hygiene Degree Completion admission option, open to dental hygienists who are graduates of accredited North American Dental Hygiene diploma | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,201,315,0</p> <p>Present Calendar Entry: Dental Hygiene Degree Program</p> <p>The Faculty of Dentistry offers a multiple admissions approach to the Dental Hygiene Degree Program. The admission options or entry points are:</p> <p>1. Entry-to-Practice Admission Option The Entry-to-Practice admission option, open to secondary school graduates and applicants with post-secondary education, is the entry point to full-time, four-year studies at UBC that includes development of the knowledge base and pre-clinical and clinical skills required to earn the B.D.Sc. degree in Dental Hygiene and become a registered dental hygienist (RDH).</p> <p>2.</p> <p>NOTE: The Faculty of Dentistry is not accepting applications to the Direct Entry admission option at this time.</p> <p>. Dental Hygiene Degree Completion Admission Option The Dental Hygiene Degree Completion admission option, open to dental hygienists who are graduates of accredited North American Dental Hygiene diploma</p> |

programs, is the entry point to full or part-time studies leading to the B.D.Sc. degree in Dental Hygiene.

3. International Dental Hygiene Degree Completion Admission Option

The International Dental Hygiene Degree Completion admission option, open to dental hygienists who are graduates of non-North American Dental Hygiene programs, is the entry point to full or part-time studies leading to the B.D.Sc. degree in Dental Hygiene.

The University will consider granting transfer credit for all transferable post-secondary courses completed. The Program, in accordance with University regulations about transfer credits, will determine the number of credits that can be applied to the dental hygiene degree.

Note: The possession of a Bachelor of Dental Science degree in Dental Hygiene does not automatically confer the right to practice dental hygiene in any province in Canada. Each province has a regulatory authority that grants the privilege to practice dental hygiene. For more information **about the regulatory authority in British Columbia**, contact the [College of Dental Hygienists of BC](http://www.collegeofdentistry.bc.ca/)

Aboriginal Applicants

All applicants to UBC, both Aboriginal and non-Aboriginal, are required to meet university general admission and program-specific admission requirements. The Faculty of Dentistry welcomes applications from qualified Aboriginal applicants. Please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,14,0,0> for more information.

UBC welcomes applications from qualified international applicants. All applicants must satisfy the UBC English language requirements. See <http://you.ubc.ca/admissions/elas/curricula-elas/> ELI verbal communication test results

programs, is the entry point to full or part-time studies leading to the B.D.Sc. degree in Dental Hygiene.

. International Dental Hygiene Degree Completion Admission Option

The International Dental Hygiene Degree Completion admission option, open to dental hygienists who are graduates of non-North American Dental Hygiene programs, is the entry point to full or part-time studies leading to the B.D.Sc. degree in Dental Hygiene.

The University will consider granting transfer credit for all transferable post-secondary courses completed. The Program, in accordance with University regulations about transfer credits, will determine the number of credits that can be applied to the dental hygiene degree.

Note: The possession of a Bachelor of Dental Science degree in Dental Hygiene does not automatically confer the right to practice dental hygiene in any province in Canada. Each province has a regulatory authority that grants the privilege to practice dental hygiene. For more information, contact the [College of Dental Hygienists of BC](http://www.collegeofdentistry.bc.ca/).

Aboriginal Applicants

The Faculty of Dentistry welcomes applications from qualified Aboriginal applicants.

UBC welcomes applications from qualified

are required.

Admission:

1. Entry-to-Practice Admission Option

Admission to the Dental Hygiene Degree Program via the Entry-to-Practice admission option is based upon:

- academic performance (overall GPA)
- personal statement
- an interview (invitation to eligible candidates only)

Among the factors considered in the application review are demonstrated leadership skills, **critical thinking, problem solving, ethics, substantial volunteerism, active participation in extracurricular activities and knowledge of the dental hygiene profession.**

The admission process will consist of two phases:

Phase I

Applicants will be selected for an interview on the basis of academic performance (overall GPA) and the Supplemental scores (Personal Profile). Applicants not selected for an interview will not be admitted.

Phase II

Applicants selected for an interview will be considered for admission based only on their interview score. Academic performance (overall GPA) and the Personal Profile will not be considered in making offers during Phase II of admission to the program.

Successful applicants to the Dental Hygiene Degree Program via the Entry-to-Practice Admission Option will complete a fulltime 4-year program that includes didactic and clinical instruction. Upon successful completion of the degree, a student will be

international applicants. All applicants must satisfy the UBC English language requirements. See <http://you.ubc.ca/admissions/elas/curricula-elas/> ELI verbal communication test results are required.

Admission

1. Entry-to-Practice Admission Option

Admission to the Dental Hygiene Degree Program via the Entry-to-Practice admission option is based upon:

- academic performance (overall GPA)
- personal statement
- an interview (invitation to eligible candidates only)

Among the factors considered in the application review are demonstrated leadership skills, **critical thinking, problem solving, ethics, substantial volunteerism, active participation in extracurricular activities and knowledge of the dental hygiene profession.**

The admission process will consist of two phases:

Phase I

Applicants will be selected for an interview on the basis of academic performance (overall GPA) and the Supplemental scores (Personal Profile). Applicants not selected for an interview will not be admitted.

Phase II

Applicants selected for an interview will be considered for admission based only on their interview score. Academic performance (overall GPA) and the Personal Profile will not be considered in making offers during Phase II of admission to the program.

eligible to register to practice as a dental hygienist. Students admitted via this admission option will complete their studies at UBC Vancouver through on-campus, distributed learning, and community outreach instructional delivery. See [Entry-to-Practice program courses](#) for details.

See [Faculty](#) for the required prerequisite courses and pre-entry information for the Entry to Practice option.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line **personal statement application**.

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

~~2. Direct Entry Admission Option—~~

~~NOTE: The Faculty of Dentistry will not be accepting applications to the Direct Entry admission option at this time.~~

Degree Completion

2. Dental Hygiene Degree Completion (category 1 or 2) Admission Option (for dental hygiene diploma graduates)

Admission to the Dental Hygiene Degree Completion admission option is based upon:

- academic performance (overall GPA)
- personal statement

An Admissions interview is mandatory. Only shortlisted candidates will be invited for an interview..

Applicants must meet the [Admissions](#) requirements of the University (see you.ubc.ca/vancouver).

Successful applicants to the Dental Hygiene Degree Program via the Entry-to-Practice Admission Option will complete a fulltime 4-year program that includes didactic and clinical instruction. Upon successful completion of the degree, a student will be eligible to register to practice as a dental hygienist. Students admitted via this admission option will complete their studies at UBC Vancouver through on-campus, distributed learning, and community outreach instructional delivery. See [Entry-to-Practice program courses](#) for details.

See [Faculty](#) for the required prerequisite courses and pre-entry information for the Entry to Practice option.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line **personal statement application**.

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

~~2. Direct Entry Admission Option—~~

~~NOTE: The Faculty of Dentistry will not be accepting applications to the Direct Entry admission option at this time.~~

Degree Completion

. Dental Hygiene Degree Completion (category 1 or 2) Admission Option (for dental hygiene diploma graduates)

Admission to the Dental Hygiene Degree Completion admission option is based upon:

- academic performance (overall GPA)

There are two categories of students in the Degree Completion option: Category 1 and Category 2, **which are detailed in bullets 2.1 and 2.2 respectively**. Visit [Dentistry](#) to determine eligibility for the appropriate admission category. Students in either category may undertake studies on a full or part-time basis. Part-time students will have up to five years to complete the program.

2.1 Category 1 - Students who have completed 30 credits of university transfer prerequisites.

Graduates of dental hygiene diploma programs accredited by the Commission of Dental Accreditation of Canada (CDAC) or the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA) with a minimum overall average of 70% are eligible for admission to the fourth year of the Program. Current registration, in good standing, with a regulatory authority where the applicant has practiced most recently and a Canadian National Dental Hygiene Certification Board Examination Certificate or the American National Board Certificate are required. If an applicant is a recent graduate of a dental hygiene diploma program seeking to enter the Dental Hygiene Degree Program directly and has not yet practiced, then a recommendation letter from the director of the dental hygiene diploma program is required.

Applicants seeking to enter Category 1 must have completed 30 credits of university transfer courses including:

- 6 credits of first-year biology (anatomy and physiology)
- 6 credits of first-year chemistry

- **personal statement**

Applicants must meet the [Admissions](#) requirements of the University (see you.ubc.ca/vancouver).

There are two categories of students in the Degree Completion option: Category 1 and Category 2, **which are detailed in bullets 3.1 and 3.2 respectively**. Visit [Dentistry](#) to determine eligibility for the appropriate admission category. Students in either category may undertake studies on a full or part-time basis. Part-time students will have up to five years to complete the program.

3.1 Category 1 - Students who have completed 30 credits of university transfer prerequisites.

Graduates of dental hygiene diploma programs accredited by the Commission of Dental Accreditation of Canada (CDAC) or the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA) with a minimum overall average of 70% are eligible for admission to the fourth year of the Program. Current registration, in good standing, with a regulatory authority where the applicant has practiced most recently and a Canadian National Dental Hygiene Certification Board Examination Certificate or the American National Board Certificate are required. If an applicant is a recent graduate of a dental hygiene diploma program seeking to enter the Dental Hygiene Degree Program directly and has not yet practiced, then a recommendation letter from the director of the dental hygiene diploma program is required.

Applicants seeking to enter Category 1 must have completed 30 credits of university transfer courses including:

- 6 credits of first-year biology (anatomy and physiology)

- 6 credits of first-year English
- 6 credits of first or second-year psychology
- 6 credits of electives (3 credits of statistics preferred)

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

Further information about the program coursework can be viewed on the-UBC Calendar and Faculty website.

2.2 Category 2- The Faculty is not accepting applications for the 2018 academic year. Applications will reopen to the Degree Completion Category 2 option for entry to the 2019 winter session.

Graduates of dental hygiene diploma programs accredited by the Commission of Dental Accreditation of Canada (CDAC) or the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA) with a minimum overall average of 70% are eligible for admission to third year of the Program. Current registration, in good standing, with a regulatory authority where the applicant has practiced most recently, and a Canadian National Dental Hygiene Certification Board Examination Certificate or the American National Board Certificate are required. If an applicant is a recent graduate of a dental hygiene diploma seeking to enter the Dental Hygiene Program directly and has not yet

- 6 credits of first-year chemistry
- 6 credits of first-year English
- 6 credits of first or second-year psychology
- 6 credits of electives (3 credits of statistics preferred)

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

Further information about the program coursework can be viewed on the-UBC Calendar and Faculty website.

3.2 Category 2 –

~~Students who have NOT completed 30 credits of university transfer prerequisites.~~

Graduates of dental hygiene diploma programs accredited by the Commission of Dental Accreditation of Canada (CDAC) or the Commission of Dental Accreditation (CODA) of the American Dental Association (ADA) with a minimum overall average of 70% are eligible for admission to third year of the Program. Current registration, in good standing, with a regulatory authority where the applicant has practiced most recently, and a Canadian National Dental Hygiene Certification Board Examination Certificate or the American National Board Certificate are required. If an applicant is a recent graduate of a dental hygiene diploma seeking

practiced, then a recommendation letter from the director of the dental hygiene diploma program is required.

Applicants NOT completing the 30 credits of university transfer courses including 6 credits of first-year biology (anatomy and physiology), 6 credits of first-year chemistry, 6 credits of first-year English, 6 credits of first or second-year psychology, and 6 credits of electives are eligible to apply under Category 2.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

Further information about the program coursework can be viewed on the UBC calendar and Faculty website.

3. International Dental Hygiene Degree Completion Admission Option

Admission to the International Dental Hygiene Degree Completion option is based upon:

- academic performance (overall GPA)
- personal statement
- ELI score of 5 or above or its equivalent
- IELTS scores of at least 6.5 and at least 6 on each component of the exam.
- supporting certification documents

to enter the Dental Hygiene Program directly and has not yet practiced, then a recommendation letter from the director of the dental hygiene diploma program is required.

Applicants NOT completing the 30 credits of university transfer courses including 6 credits of first-year biology (anatomy and physiology), 6 credits of first-year chemistry, 6 credits of first-year English, 6 credits of first or second-year psychology, and 6 credits of electives are eligible to apply under Category 2.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions](#) Office.

Further information about the program coursework can be viewed on the UBC calendar and Faculty website.

4. International Dental Hygiene Degree Completion Admission Option

Admission to the International Dental Hygiene Degree Completion option is based upon:

- academic performance (overall GPA)
- personal statement
- ELI score of 5 or above or its equivalent
- IELTS scores of at least 6.5 and at least 6 on each component of the

An Admissions interview is mandatory. Only shortlisted candidates will be invited for an interview.

Graduates of **dental hygiene diploma** programs that are not accredited by the Commission on Dental Accreditation of Canada (CDAC) but who hold the Canadian National Dental Hygiene Certification Board Examination Certificate may be admitted to the third year of the Program. No specific courses at the secondary school level are mandatory. Applicants are required to have, or be eligible to have, current registration, in good standing, with a regulatory authority where the applicant has practiced most recently. If the applicant has not practiced, then a letter of support from an instructor from their dental hygiene program is required.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

All inquiries relating to admission should be addressed to the Dentistry [Admissions Office](#).

Note: Registration to practice in BC is not required for admission to the Program. However, international applicants who wish to practice dental hygiene in British Columbia must satisfy the requirements of the College of Dental Hygienists of BC (CDHBC), the provincial dental hygiene regulatory authority. For information, refer to [College of Dental Hygienists of BC](#).

Further information about the program coursework can be viewed on the UBC

exam.

- **supporting certification documents**

Graduates of **dental hygiene diploma** programs that are not accredited by the Commission on Dental Accreditation of Canada (CDAC) but who hold the Canadian National Dental Hygiene Certification Board Examination Certificate may be admitted to the third year of the Program. No specific courses at the secondary school level are mandatory. Applicants are required to have, or be eligible to have, current registration, in good standing, with a regulatory authority where the applicant has practiced most recently. If the applicant has not practiced, then a letter of support from an instructor from their dental hygiene program is required.

See [Admissions](#) for information on application procedures and UBC admission policies. All applicants must complete the Dental Hygiene Degree Program on-line personal statement [application](#).

The required non-refundable application fee and all supporting documents must be submitted to the Manager, Admissions, Faculty of Dentistry. Incomplete and late applications will not be considered.

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Note: Registration to practice in BC is not required for admission to the Program. However, international applicants who wish to practice dental hygiene in British Columbia must satisfy the requirements of the College of Dental Hygienists of BC (CDHBC), the provincial dental hygiene regulatory authority. For information, refer to [College of Dental Hygienists of BC](#).

Further information about the program coursework can be viewed on the UBC

calendar and Faculty website.**Acceptance****1. Entry-to-Practice Applicants**

The Dental Hygiene Degree Program has limited enrolment. Since the number of qualified applicants typically exceeds the number of places available, fulfillment of the minimum requirements is not a guarantee of admission. The Faculty reserves the right of selection of all students for admission to the Program.

Successful applicants must submit a deposit **by the date specified in the letter of offer** from the Faculty of Dentistry. This deposit is non-refundable and will be applied toward the **tuition** fees for the first term.

A health record that evidences immunizations (tetanus/diphtheria-toxoid, polio, MMR, chickenpox, and hepatitis B) and a negative TB skin test (if the test is positive, a chest x-ray is required) must be submitted to the UBC Student Health Service. Immunizations are available from your family doctor, community health department, and from the UBC Student Health Service. Being a carrier of any one of the conditions may restrict students' educational opportunity to fulfill requirements for graduation and subsequent practice as a dental hygienist. Counselling is available to individuals who have, or are carriers, of communicable diseases. Applicants should be aware that dental hygiene practice might be very difficult for people with back problems or latex allergies.

Disability may result from practicing dental hygiene. Included are exposure to infectious diseases such as HIV, Hepatitis, musculo-skeletal injuries, and the possibility of physical assault. Injury during the Program may preclude a student from continuing and from practicing dental hygiene. While the Faculty of Dentistry makes efforts to minimize such risks it does not provide any insurance to protect students from loss of future income. The

calendar and Faculty website.**Acceptance****1. Entry-to-Practice Applicants**

The Dental Hygiene Degree Program has limited enrolment. Since the number of qualified applicants typically exceeds the number of places available, fulfillment of the minimum requirements is not a guarantee of admission. The Faculty reserves the right of selection of all students for admission to the Program.

Successful applicants must submit a deposit **by the date specified in the letter of offer** from the Faculty of Dentistry. This deposit is non-refundable and will be applied toward the **tuition** fees for the first term.

A health record that evidences immunizations (tetanus/diphtheria-toxoid, polio, MMR, chickenpox, and hepatitis B) and a negative TB skin test (if the test is positive, a chest x-ray is required) must be submitted to the UBC Student Health Service. Immunizations are available from your family doctor, community health department, and from the UBC Student Health Service. Being a carrier of any one of the conditions may restrict students' educational opportunity to fulfill requirements for graduation and subsequent practice as a dental hygienist. Counselling is available to individuals who have, or are carriers, of communicable diseases. Applicants should be aware that dental hygiene practice might be very difficult for people with back problems or latex allergies.

Disability may result from practicing dental hygiene. Included are exposure to infectious diseases such as HIV, Hepatitis, musculo-skeletal injuries, and the possibility of physical assault. Injury during the Program may preclude a student from continuing and from practicing dental hygiene. While the Faculty of Dentistry makes efforts to minimize such risks it does not provide any insurance to protect students from loss of

Faculty recommends that students purchase disability insurance and continue coverage throughout the Program.

For more detailed information please view the website:

www.dentistry.ubc.ca/Education/Hygiene/EntryToPractice/default.asp

2. Degree Completion Applicants

Applicants who meet minimum admission requirements are not guaranteed acceptance. Enrolment is limited. Successful applicants must submit a deposit by the date specified in the letter of offer from the Faculty of Dentistry. This deposit is non-refundable and will be applied towards tuition fees for the first term. If an applicant does not register for the term specified in the **offer** letter, the acceptance and the deposit will be forfeited.

3. International Degree Completion Applicants

Applicants who meet minimum admission requirements are not guaranteed acceptance. Enrolment is limited. Successful applicants must submit a deposit by the date specified in the letter of offer from the Faculty of Dentistry. This deposit is non-refundable and will be applied towards tuition fees. If an applicant does not register at UBC for the term specified in the **offer** letter, the acceptance and the deposit will be forfeited.

Readmission

The Faculty of Dentistry reserves the right to readmit students and to stipulate conditions attached to readmission. Readmission to the Program may necessitate repetition of courses previously completed if, in the judgment of the Faculty, curriculum changes, and/or length of interruption are sufficient to render the applicant inadequately prepared to continue

future income. The Faculty recommends that students purchase disability insurance and continue coverage throughout the Program.

For more detailed information please view the website:

www.dentistry.ubc.ca/Education/Hygiene/EntryToPractice/default.asp

2. Direct Entry Applicants

~~NOTE: The Faculty of Dentistry is not accepting applications to the Direct Entry admission option at this time.~~

3. Degree Completion Applicants

Applicants who meet minimum admission requirements are not guaranteed acceptance. Enrolment is limited. Successful applicants must submit a deposit by the date specified in the letter of offer from the Faculty of Dentistry. This deposit is non-refundable and will be applied towards tuition fees for the first term. If an applicant does not register for the term specified in the **offer** letter, the acceptance and the deposit will be forfeited.

4. International Degree Completion Applicants

Applicants who meet minimum admission requirements are not guaranteed acceptance. Enrolment is limited. Successful applicants must submit a deposit by the date specified in the letter of offer from the Faculty of Dentistry. This deposit is non-refundable and will be applied towards tuition fees. If an applicant does not register at UBC for the term specified in the **offer** letter, the acceptance and the deposit will be forfeited.

Readmission

The Faculty of Dentistry reserves the right to readmit students and to stipulate conditions attached to readmission. Readmission to the

studies.

Program Inquiries

All inquiries relating to the Dental Hygiene Degree Program should be addressed to:

Student Services Office
Faculty of Dentistry
The University of British Columbia
278-2199 Wesbrook Mall
Vancouver, BC, V6T 1Z3
Tel: 604.822.9726
Fax: 604.822.8279
Email: dhvgadm@dentistry.ubc.ca (Faculty of Dentistry Admissions)

Program may necessitate repetition of courses previously completed if, in the judgment of the Faculty, curriculum changes, and/or length of interruption are sufficient to render the applicant inadequately prepared to continue studies.

Program Inquiries

All inquiries relating to the Dental Hygiene Degree Program should be addressed to:

Student Services Office
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The University of British Columbia
278-2199 Wesbrook Mall
Vancouver, BC, V6T 1Z3
Tel: 604.822.9726
Fax: 604.822.8279
Email: dhvgadm@dentistry.ubc.ca (Faculty of Dentistry Admissions)

Type of Action:

1. Remove the moratorium placed on Degree Completion Category II.
2. Editorial changes

Rational for Proposed Changes:

- 1) The Dental Hygiene Degree Program (DHDP) has two pathways to earn the Bachelor of Dental Sciences degree: entry-to-practice and degree-completion. The degree-completion pathway has two entry points, where practicing dental hygienists enter either into Year 3 or Year 4 of our program. In 2015, the Senate approved a moratorium for one of the pathways, degree completion category II, which applicants enter into Year 3, to provide the faculty an opportunity to readdress learning outcomes in several courses of the program which align with the faculty's mission in advancing oral health and core idea of providing exceptional undergraduate education. This time interval has allowed the faculty to accomplish several key elements:
 - a) Strengthen student support mechanisms:
 - i) A more robust orientation

| | |
|--|---|
| | <p>process with student services to better familiarize students with our academic policies and procedures and with available student support resources.</p> <p>ii) Allocated Faculty Advisors to enhance student support.</p> <p>b) Admissions process: We have implemented an iMMI (which is the Multiple mini-interviews via Skype) processes to select ideal applicants.</p> <p>c) We also applied and received 3 CTLT-TLEF grants for the major renewal of core courses which are now all completed.</p> <p>2.Editorial changes:</p> <p>a) iMMI allows the admission interview to be delivered via telecommunications application software.</p> <p>b) Clarify the direct admission option by stating “direct” in the heading.</p> |
| | |

UBC Admission Proposal Form Change to Course or Program

| | |
|--|---|
| <p>Faculty: Faculty of Applied Science Department: MEL & MHLP Faculty Approval Date: October 12, 2017 Effective Session (W or S): Winter Effective Academic Year: 2018</p> | <p>Date: September 26, 2017 Contact Person: Helen May (MEL/MHLP Program Manager) Phone: 604-822-9415 Email: helen.may@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.</p> <p>Acceptable English language proficiency tests for the MEL in AMM are:</p> <ul style="list-style-type: none"> • TOEFL (Test of English as a Foreign Language): <ul style="list-style-type: none"> Either: <ul style="list-style-type: none"> ○ A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking]; OR ○ Minimum score 55 each for reading, listening, and writing (in the paper-based test), with 4.0 on the Test of Written English (TWE). • IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 of the academic (NOT general) IELTS test. • MELAB (Michigan English Language Assessment Battery): minimum overall score of 85, with a minimum score of 3 in the speaking test. • PTE (Pearson Test of English - Academic): minimum overall score of 65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking. • CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L of the academic (NOT general) test is required. • CAEL (Canadian Academic English Language Assessment): minimum overall score of 70. | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12.195.966.0</p> <p>Present Calendar Entry:</p> <p>Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.</p> <p>Acceptable English language proficiency tests for the MEL in AMM are:</p> <ul style="list-style-type: none"> • TOEFL (Test of English as a Foreign Language): minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005) • IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 • MELAB (Michigan English Language Assessment Battery): minimum overall score of 81 • PTE (Pearson Test of English - Academic): minimum overall score of 59 • CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L • CAEL (Canadian Academic English Language Assessment): minimum overall score of 60 <p>Type of Action: Change minimum English requirements for admission</p> <p>Rationale for Proposed Change: To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.</p> |

with a minimum score of 60 on the speaking sub-test

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in CEEN are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - **OR**
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,967,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in CEEN are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in DSS are:

- TOEFL (Test of English as a Foreign Language):
 - Either:
 - A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];
 - OR
 - Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 of the academic (NOT general) IELTS test.
- MELAB (Michigan English Language Assessment Battery): minimum overall score of 85, with a minimum score of 3 in the speaking test.
- PTE (Pearson Test of English - Academic): minimum overall score of 65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L of the academic (NOT general) test is required.
- CAEL (Canadian Academic English Language Assessment): minimum overall score of 70, with a minimum score of 60 on the speaking sub-test

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,983,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in DSS are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in GBPR are:

- TOEFL (Test of English as a Foreign Language):
 - Either:
 - A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];
 - OR
 - Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 of the academic (NOT general) IELTS test.
- MELAB (Michigan English Language Assessment Battery): minimum overall score of 85, with a minimum score of 3 in the speaking test.
- PTE (Pearson Test of English - Academic): minimum overall score of 65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L of the academic (NOT general) test is required.
- CAEL (Canadian Academic English Language Assessment): minimum overall score of 70, with a minimum score of 60 on the speaking sub-test

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,981,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in GBPR are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. **Tests must have been taken within the last 24 months at the time of submission of your application.**

Acceptable English language proficiency tests for the MEL in HPB are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking]; OR**
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,993,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must provide results of English language proficiency prior to being extended an offer of admission.

Acceptable English language proficiency tests for the MEL in HPB are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

~~Tests must have been taken within the last 24 months at the time of submission of your application.~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in IWME are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - **OR**
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,982,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in IWME are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
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- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in NAME are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - **OR**
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
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- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,968,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in NAME are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. **Tests must have been taken within the last 24 months at the time of submission of your application.**

Acceptable English language proficiency tests for the MEL in SGES are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - OR
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,996,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency prior to being extended an offer of admission.

Acceptable English language proficiency tests for the MEL SGES are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

~~Tests must have been taken within the last 24 months at the time of submission of your application.~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in URSY are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - OR
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,980,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MEL in URSY are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. **Tests must have been taken within the last 24 months at the time of submission of your application.**

Acceptable English language proficiency tests for the MHLP in CE are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - **OR**
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,994,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission.

Acceptable English language proficiency tests for the MHLP in CE are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

~~Tests must have been taken within the last 24 months at the time of submission of your application.~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

Proposed Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MHLP in SC are:

- TOEFL (Test of English as a Foreign Language):
 - **Either:**
 - **A minimum score of 90 (internet-based exam), with minimum component scores of 22 [in reading, listening] and minimum component score of 21 [in writing, speaking];**
 - OR
 - **Minimum score 55 each for reading, listening, and writing (in the paper-based test), with a minimum score of 4.0 on the Test of Written English (TWE).**
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0 **of the academic (NOT general) IELTS test.**
- MELAB (Michigan English Language Assessment Battery): minimum overall score of **85, with a minimum score of 3 in the speaking test.**
- PTE (Pearson Test of English - Academic): minimum overall score of **65, with a minimum score of 60 reading, 60 writing, 60 listening, and 60 speaking.**
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L **of the academic (NOT general) test is required.**
- CAEL (Canadian Academic English Language Assessment): minimum overall score of **70, with a minimum score of 60 on the speaking sub-test**

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,984,0>

Present Calendar Entry:

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of English language proficiency prior to being extended an offer of admission. Tests must have been taken within the last 24 months at the time of submission of your application.

Acceptable English language proficiency tests for the MHLP in SC are:

- TOEFL (Test of English as a Foreign Language): ~~minimum score of 550 (paper version); 213 (computer version); 80 (Internet version, effective September 2005)~~
- IELTS (International English Language Testing Service): minimum overall band score of 6.5 with no other component score less than 6.0
- MELAB (Michigan English Language Assessment Battery): minimum overall score of ~~81~~
- PTE (Pearson Test of English - Academic): minimum overall score of ~~59~~
- CELPIP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L
- CAEL (Canadian Academic English Language Assessment): minimum overall score of ~~60~~

Type of Action:

Change minimum English requirements for admission

Rationale for Proposed Change:

To maintain UBC standards and bring the English Standards required for Graduate admission to the same minimum requirement as G+PS.

UBC Admission Proposal Form Change to Course or Program

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| <p>Faculty: Faculty of Applied Science Department: MEL & MHLP Faculty Approval Date: October 12, 2017 Effective Session (W or S): Winter Effective Academic Year: 2017</p> | <p>Date: September 26, 2017 Contact Person: Helen May (MEL/MHLP Program Manager) Phone: 604-822-9415 Email: helen.may@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits for equivalent courses outside of the AMM program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in AMM degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the AMM program; • the courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the AMM program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>2. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes.</p> <p>4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of AMM, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12.195.966.0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a</p> |

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| <p>fees.</p> | <p>consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits for equivalent courses outside of the CEEN program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in CEEN degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the CEEN program; • the courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the CEEN program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>2. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes.</p> <p>4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of CEEN, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,967,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other</p> |

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| <p>by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits for equivalent courses outside of the DSS program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in DSS degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> The courses were not used as a basis for admission to the DSS program; the courses were not used to satisfy the requirements of another credential; The courses considered for transfer credit have been taken within five years of commencement of the DSS program; At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>2. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APMP or Sauder business course codes.</p> <p>4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of DSS, addressed to the</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,983,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> |

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| <p>Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits for equivalent courses outside of the GBPR program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in GBPR degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> The courses were not used as a basis for admission to the GBPR program; the courses were not used to satisfy the requirements of another credential; The courses considered for transfer credit have been taken within five years of commencement of the GBPR program; At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>2. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes.</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,981,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of</p> |

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| <p>4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of GBPR, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits for equivalent courses outside of the HPB program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in HPB degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the HPB program; • the courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the HPB program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>2. Transfer credit may only be at the graduate level (500-/600-level).</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,993,0</p> <p>Present Calendar Entry:</p> <p>Transfer Credit</p> <p>1. Graduate students who have earned credits outside their current master's program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may transfer up to 3 credits or up to 10% of the total number of credits needed for completion of their current program (whichever is more); provided that:</p> <ul style="list-style-type: none"> • The courses were not used to satisfy the requirements of another credential; • The courses were not used as a basis for admission to the graduate degree program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer; • The courses considered for transfer credit have been taken within five years of commencement of the current degree program. |

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| <p>3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes.</p> <p>4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of HPB, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>2. No more than 6 credits of transfer credit may be at the undergraduate level (300 /400 level).</p> <p>3. The 3 credit (10%) restriction applies to students in UBC approved Exchange Agreements established by the UBC Go Global Office.</p> <p>4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.</p> <p>Courses taken as a UBC Access Studies (or non-degree) student may be approved for transfer toward a graduate program (in accordance with transfer credit regulations specified above) with the permission of the graduate program and the Dean of Applied Science.</p> <p>Type of Action: Edit transfer credits to proposed professional program policy</p> <p>Rationale for Proposed Change: We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the</p> |
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| | <p>maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <ol style="list-style-type: none"> 1. Graduate students who have earned credits for equivalent courses outside of the IWME program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in IWME degree. Typically only 3 credits will be allowed to be transferred, provided that: <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the IWME program; • the courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the IWME program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. 2. Transfer credit may only be at the graduate level (500-/600-level). 3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes. 4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of IWME, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,982,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other</p> |

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| <p>course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <ol style="list-style-type: none"> 1. Graduate students who have earned credits for equivalent courses outside of the NAME program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in NAME degree. Typically only 3 credits will be allowed to be transferred, provided that: <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the NAME program; • The courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the NAME program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. 2. Transfer credit may only be at the graduate level (500-/600-level). 3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes. 4. Requests for transfer credit must be accompanied by a letter or memo of support | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,968,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> |

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| <p>from the Director of NAME, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>5. Graduate students who have earned credits for equivalent courses outside of the SGES program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in SGES degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> The courses were not used as a basis for admission to the SGES program; The courses were not used to satisfy the requirements of another credential; The courses considered for transfer credit have been taken within five years of commencement of the SGES program; At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>6. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>7. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,996,0</p> <p>Present Calendar Entry:</p> <p>Transfer Credit</p> <p>2. Graduate students who have earned credits outside their current master's program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may transfer up to 3 credits or up to 10% of the total number of credits needed for completion of their current program (whichever is more), provided that:</p> <ul style="list-style-type: none"> The courses were not used to satisfy the requirements of another credential; The courses were not used as a basis for admission to the graduate degree program; At least a B standing (UBC 74%) was obtained in courses considered for transfer; The courses considered for transfer credit have been taken within five years of commencement of the current degree program. <p>2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).</p> |

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| <p>or Sauder business course codes.</p> <p>8. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of SGES, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> | <p>3. The 3 credit (10%) restriction applies to students in UBC approved Exchange Agreements established by the UBC Go Global Office.</p> <p>4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.</p> <p>Courses taken as a UBC Access Studies (or non-degree) student may be approved for transfer toward a graduate program (in accordance with transfer credit regulations specified above) with the permission of the graduate program and the Dean of Applied Science.</p> <p>Type of Action: Edit transfer credits to proposed professional program policy</p> <p>Rationale for Proposed Change: We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by</p> |
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| | <p>the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <ol style="list-style-type: none"> 1. Graduate students who have earned credits for equivalent courses outside of the URSY program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MEL in URSY degree. Typically only 3 credits will be allowed to be transferred, provided that: <ul style="list-style-type: none"> • The courses were not used as a basis for admission to the URSY program; • The courses were not used to satisfy the requirements of another credential; • The courses considered for transfer credit have been taken within five years of commencement of the URSY program; • At least a B standing (UBC 74%) was obtained in courses considered for transfer. 2. Transfer credit may only be at the graduate level (500-/600-level). 3. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes. 4. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of URSY, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,980,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other</p> |

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| <p>by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry Transfer Credit</p> <ol style="list-style-type: none"> Graduate students who have earned credits for equivalent courses outside of the CE program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MHLP in CE degree. Typically only 3 credits will be allowed to be transferred, provided that: <ul style="list-style-type: none"> The courses were not used as a basis for admission to the CE program; The courses were not used to satisfy the requirements of another credential; The courses considered for transfer credit have been taken within five years of commencement of the CE program; At least a B standing (UBC 74%) was obtained in courses considered for transfer. Transfer credit may only be at the graduate level (500-/600-level). Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes. Requests for transfer credit must be accompanied by a letter or memo of support | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,994,0</p> <p>Present Calendar Entry: Transfer Credit</p> <ol style="list-style-type: none"> Graduate students who have earned credits outside their current master's program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may transfer up to 3 credits or up to 10% of the total number of credits needed for completion of their current program (whichever is more); provided that: <ul style="list-style-type: none"> The courses were not used to satisfy the requirements of another credential; The courses were not used as a basis for admission to the graduate degree program; At least a B standing (UBC 74%) was obtained in courses considered for transfer; The courses considered for transfer credit have been taken within five years of commencement of the current degree program. <p>2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).</p> <p>3. The 3-credit (10%) restriction applies to students in UBC approved Exchange Agreements established by the UBC Go Global Office.</p> |

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| <p>from the Director of CE, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.</p> <p>Courses taken as a UBC Access Studies (or non-degree) student may be approved for transfer toward a graduate program (in accordance with transfer credit regulations specified above) with the permission of the graduate program and the Dean of Applied Science.</p> <p>Type of Action: Edit transfer credits to proposed professional program policy</p> <p>Rationale for Proposed Change: We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and</p> |
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| | <p>leadership courses will be accepted for transfer credit.</p> |
| <p>Proposed Calendar Entry:</p> <p>Transfer Credit</p> <p>5. Graduate students who have earned credits for equivalent courses outside of the SC program (e.g., from a different university, in a different UBC master's program, or as an unclassified student) may apply to transfer credits toward their MHLP in SC degree. Typically only 3 credits will be allowed to be transferred, provided that:</p> <ul style="list-style-type: none"> The courses were not used as a basis for admission to the SC program; The courses were not used to satisfy the requirements of another credential; The courses considered for transfer credit have been taken within five years of commencement of the SC program; At least a B standing (UBC 74%) was obtained in courses considered for transfer. <p>6. Transfer credit may only be at the graduate level (500-/600-level).</p> <p>7. Transferring credits is not permitted for APSC Professional Programs management and leadership courses, course code: APPP or Sauder business course codes.</p> <p>8. Requests for transfer credit must be accompanied by a letter or memo of support from the Director of SC, addressed to the Associate Dean of Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,984,0</p> <p>Present Calendar Entry: <i>[There is currently no entry here]</i></p> <p>Type of Action: Add policy on transfer credits.</p> <p>Rationale for Proposed Change: Although there is no published program policy regarding credits that can be transferred in from another institution and applied to this program, practice has been to follow the Faculty of Graduate and Postdoctoral Studies 'Transfer Credit' policy. We wish to establish and publish a policy for the program, which is more restrictive than the Faculty of Graduate and Postdoctoral Studies policy, in order to ensure the quality of the program and its graduates and to optimize the learning experience for all students.</p> <p>The Master of Engineering Leadership and Master of Health Leadership and Policy programs are intensive one-year professional programs for working professionals. The programs operate in a cohort model and involve 'platform' leadership courses and 'pillar' technical courses, specific to the specialty of study. There are very few, and restricted electives.</p> <p>To allow 40% (12 Credits) transferred in to the program would put at risk the benefits all students gain from a cohort program with other</p> |

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| <p>by course basis and be accompanied by a set of original transcripts from the completed course institution.</p> <p>5. Transferring credits will not reduce tuition fees.</p> | <p>working professionals, where students profit from each other's professional experiences. Furthermore, the platform and pillar courses are specifically designed for these programs, and we want to ensure that the students have a consistently high quality learning experience.</p> <p>We would like to set the following policies: the maximum number of credits allowable for transfer from another institution will be 10% or less of the total number of credits required by the program for graduation; credits accepted for transfer will be limited to graduate level courses; and no platform management and leadership courses will be accepted for transfer credit.</p> |
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UBC Admission-Proposal Form Change to Course or Program

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| Faculty: APSC Department: MEng Faculty Approval Date: November 2, 2017 Effective Session (W or S): Winter Effective Academic Year: 2018-18 | Date: September 29, 2017 Contact Person: Marlene Chow Phone: 604-827- 3537 Email: marlene.chow@ubc.ca |
| <p>Proposed Calendar Entry:</p> <p>Master of Engineering</p> <p>The Master of Engineering (M.Eng.) program is suited to students who wish to pursue their engineering education in a preferred area of specialization beyond the undergraduate level, but who do not wish to pursue a thesis research program. Applicants who are considering taking a Doctor of Philosophy (Ph.D.) in the future should apply for admission to the Master of Applied Science (M.A.Sc.) or Master of Science (M.Sc. in Chemical and Biological Engineering) through the Faculty of Graduate and Postdoctoral Studies.</p> <p>Typical completion time for full-time Master of Engineering students is 12-16 months.</p> <p>The Master of Engineering program is administered by the Faculty of Applied Science.</p> <p>Admission Requirements</p> <p>Note: Master of Engineering degrees alone do not form an acceptable basis for application to associations of professional engineers in Canada.</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,838,0</p> <p>Present Calendar Entry:</p> <p>Master of Engineering</p> <p>The Master of Engineering (M.Eng.) program is suited to students who wish to pursue their engineering education in a preferred area of specialization beyond the undergraduate level, but who do not wish to pursue a thesis research program. Applicants who are considering taking a Doctor of Philosophy (Ph.D.) in the future should apply for admission to the Master of Applied Science (M.A.Sc.) through the Faculty of Graduate and Postdoctoral Studies.</p> <p>Typical completion time for full-time Master of Engineering students is 12-16 months.</p> <p>The Faculty of Applied Science administers the Master of Engineering program. Please visit the <u>Program</u> for a full listing program policies and procedures.</p> <p>Admission Requirements</p> <p>Note: Master of Engineering degrees alone do not form an acceptable basis for application to associations of professional engineers in Canada.</p> |

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| <p>Applicants to the Master of Engineering program in all specializations must hold a credential deemed academically equivalent to a four-year bachelor's degree from UBC, in engineering or a related discipline.</p> <p>The minimum admission requirement for students with degrees from North American institutions is an average of 76% (UBC-equivalency), calculated from senior-level coursework. An applicant with an average less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework, and at least 74% in the remaining senior-level coursework, in the prospective area of study.</p> <p>The minimum admission requirement for applicants with degrees from outside North America is an overall average of 76% (UBC-equivalency).</p> <p>For all specializations, relevant professional experience is considered an asset.</p> <p>Applicants holding a four-year bachelor's degree who do not meet the admissions minimum, but who have had sufficient formal training and relevant professional</p> | <p>Applicants to the Master of Engineering program in all specializations except Engineering and Public Policy must hold a credential deemed academically equivalent to a four-year bachelor's degree from UBC, in engineering or a related discipline.</p> <p>Applicants to the Engineering and Public Policy specialization must hold a credential deemed academically equivalent to a four-year bachelor's degree from UBC in engineering. Admission requirements also include successful completion of a minimum of a 3-credit introductory course in microeconomics (equivalent to ECON 101) and a minimum of a 3-credit elementary statistics course (equivalent to STAT 251).</p> <p>The minimum admission requirement for students with degrees from North American institutions is an average of 76% (UBC-equivalency), calculated from senior-level coursework. An applicant with an average less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework, and at least 74% in the remaining senior-level coursework, in the prospective area of study.</p> <p>The minimum admission requirement for applicants with degrees from outside North America is an overall average of 76% (UBC-equivalency).</p> <p>For all specializations, relevant professional experience is considered an asset.</p> <p>Applicants holding a four-year bachelor's degree who do not meet the admissions minimum, but who have had sufficient formal training and relevant professional experience to offset the academic</p> |
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experience to offset the academic deficiency, may be granted admission on the recommendation of the graduate advisor in the area of specialization and the approval of the **Applied Science Dean's office.**

For the Naval Architecture and Marine Engineering specialization, applicants must have demonstrated proficiency in the areas of Structural Mechanics, Fluid Mechanics, Automatic Controls and Thermodynamics. Students lacking a background in these subject areas may be required to complete additional coursework.

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency prior to being extended an offer of admission. Acceptable English language proficiency tests for applicants to graduate studies include the TOEFL, IELTS, and MELAB. The required minimum is determined by the Graduate program office in the area of specialization, but must be at or above the university minimum for graduate-level study.

Students interested in applying to the Master of Engineering program **apply through the UBC Graduate Studies Online Application.** Lists of the required application documents are available on the respective program websites. Each graduate program office in an area of specialization is responsible for collection and assessment of application documents **and** issues the offer of admission letter.

deficiency, may be granted admission on the recommendation of the graduate advisor in the area of specialization and the approval of the ~~Master of Engineering Program~~ Office.

~~For the Clean Energy Engineering specialization, applicants must have taken at least 3 credits (UBC equivalency) of thermodynamics at the second or third year level.~~

For the Naval Architecture and Marine Engineering specialization, applicants must have demonstrated proficiency in the areas of Structural Mechanics, Fluid Mechanics, Automatic Controls and Thermodynamics. Students lacking a background in these subject areas may be required to complete additional coursework.

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency prior to being extended an offer of admission. Acceptable English language proficiency tests for applicants to graduate studies include the TOEFL, IELTS, and MELAB. The required minimum is determined by the Graduate program office in the area of specialization, but must be at or above the university minimum for graduate-level study.

Students interested in applying to the Master of Engineering program ~~must contact the individual graduate program office for their area of specialization. Students who are planning on taking the program on a part-time basis must obtain approval from their graduate program advisor prior to the commencement of the program.~~ Lists of the required application documents are available on the respective websites. Each graduate program office in

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| <p>Transfer Credit</p> <p>Courses taken as an Access Studies or non-degree student may be approved for transfer toward a graduate program degree with the permission of the graduate program in the area of specialization.</p> <p>Consistent with standard transfer credit regulations, students are limited to transferring a maximum of 12 credits or up to 40% of the program credit requirements, whichever is more, toward their master's program. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level). In order to be eligible for transfer, the course(s):</p> <ul style="list-style-type: none"> • must be completed with a minimum B standing (UBC-equivalency) • must not have been counted toward the completion of another degree or program • must have been completed no more than five years prior to the time the student commences the degree program • must not be used as a basis for admission to the graduate program <p>Financial Assistance</p> <p>Financial assistance is generally not available to students in the Master of Engineering program. Review each specialization website for specific</p> | <p>an area of specialization is responsible for collection and assessment of application documents. The Master of Engineering Program Office issues the offer of admission letter.</p> <p>Transfer Credit</p> <p>Courses taken as an Access Studies or non-degree student may be approved for transfer toward a graduate program with the permission of the graduate program and the Master of Engineering Program Office.</p> <p>Consistent with standard transfer credit regulations, students are limited to transferring a maximum of 12 credits or up to 40% of the program credit requirements, whichever is more, toward their master's program. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level). In order to be eligible for transfer, the course(s):</p> <ul style="list-style-type: none"> • must be completed with a minimum B standing (UBC-equivalency) • must not have been counted toward the completion of another degree or program • must have been completed no more than five years prior to the time the student commences the degree program • must not be used as a basis for admission to the graduate program <p>Financial Assistance</p> <p>Financial assistance is generally not available to students in the Master of Engineering program. Review each specialization website for specific assistance information.</p> |
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assistance information.

Program Requirements

The program requires completion of at least 30 credits. In some program areas, minimum requirements may be higher than 30 credits:

- At least 24 credits must be at the 500-level.
- A minimum of 18 of the 24 credits must be in the program area at the 500-level, including a project, if required, up to a maximum 6 credits.
- A maximum of 6 credits may be taken at the 300-/400-level.
- A maximum of 6 credits of 500-level directed studies courses may be counted toward the program requirements.

Students should consult each specialization website for more information. Each student's coursework must be approved by the graduate program office for that area.

Specializations

[Biomedical Engineering](#)

[Chemical and Biological Engineering](#)

[Civil Engineering](#)

[Clean Energy Engineering](#)

[Electrical and Computer Engineering](#)

[Geological Engineering](#)

[Materials Engineering](#)

Program Requirements

The program requires completion of at least 30 credits. In some program areas, minimum requirements may be higher than 30 credits:

- At least 24 credits must be at the 500-level.
- A minimum of 18 of the 24 credits must be in the program area at the 500-level, including a project, if required, up to a maximum 6 credits.
- A maximum of 6 credits may be taken at the 300-/400-level.
- A maximum of 6 credits of 500-level directed studies courses may be counted toward the program requirements.

Students should consult each specialization website for more information. Each student's coursework must be approved by the graduate program office for that area.

Specializations

[Biomedical Engineering](#)

[Chemical and Biological Engineering](#)

[Civil Engineering](#)

[Clean Energy Engineering](#)

[Electrical and Computer Engineering](#)

[Engineering and Public Policy](#)

[Geological Engineering](#)

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| <p><u>Mechanical Engineering</u></p> <p><u>Mechatronics Design</u></p> <p><u>Mining Engineering</u></p> <p><u>Naval Architecture and Marine Engineering</u></p> <p>Engineering Management</p> <p>Please note: This sub-specialization is no longer accepting students.</p> <p>Contact Information</p> <p>Individual contacts for each program can be found on their respective websites.</p> | <p><u>Materials Engineering</u></p> <p><u>Mechanical Engineering</u></p> <p><u>Mechatronics Design</u></p> <p><u>Mining Engineering</u></p> <p><u>Naval Architecture and Marine Engineering</u></p> <p>Engineering Management</p> <p>Please note: This sub-specialization is no longer accepting students.</p> <p>The <u>Engineering Management</u> sub-specialization requires 12 credits of courses in management-related subjects, with a minimum of 6 credits of core courses and a maximum of 6 credits of elective courses. The chosen program area requirements must also be satisfied.</p> <p>Contact Information</p> <p>Master of Engineering Program Office 5000-2332 Main Mall Vancouver, BC V6T 1Z4 Tel: 604.822.8386 Fax: 604.822.7006 Email: gradprog@apsc.ubc.ca Web: www.engineering.ubc.ca/prospective_students/graduate/index.php Deb Feduik, Coordinator</p> <p>Type of Action: Updating language and Program information.</p> <p>Including 2 hyperlinks respectively (provided below for reference while viewing a printed copy of this package):</p> |
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| | <p>programs: https://engineering.ubc.ca/academics/graduate</p> <p>Graduate Studies Online Application: https://evision.as.it.ubc.ca/urd/sits.urd/run/siw_ubc_cwl</p> <p>Rationale for Proposed Change: To reflect updated relevant and current program requirement information.</p> |
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UBC Admission Proposal Form Change to Course or Program

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| Faculty: Science Department: Earth, Ocean and Atmospheric Sciences Faculty Approval Date: | Date: January 30, 2018 Contact Person: Norm Hutchinson Phone: 2-8188 Email: norm@cs.ubc.ca |
| Effective Date for Change: 18S Proposed Calendar Entry: Geophysics Master of Science Admission Requirements Applicants are expected to have the equivalent of a bachelor's degree in science, with a firm background of mathematics and physics up to fourth-year level. While some undergraduate instruction in geophysics or geology is an advantage, it is not a prerequisite for entry into geophysics graduate programs of the Department of Earth, Ocean and Atmospheric Sciences. | http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,1171 Present Calendar Entry: Geophysics Master of Science Admission Requirements Applicants are expected to have the equivalent of an honours bachelor's degree in science, with a firm background of mathematics and physics up to fourth-year level. While some undergraduate instruction in geophysics or geology is an advantage, it is not a prerequisite for entry into geophysics graduate programs of the Department of Earth, Ocean and Atmospheric Sciences. Action: Update description. Rationale: The current wording would exclude most of our own undergrads from entering the grad program (b/c most are Majors not Hons). More generally, most universities around the world do not explicitly distinguish Honours and Majors programs. |

UBC Admission Proposal Form Change to Course or Program

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| <p>Faculty: Land and Food Systems Department: Student Services Faculty Approval Date: Oct 23, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: September 27, 2017 Contact Person: Christine Klaray Phone: 2-9702 Email: Christine.klaray@ubc.ca</p> |
| <p>Homepage → Faculties, Colleges, and Schools → The Faculty of Land and Food Systems → Admission</p> <p>Proposed Calendar Entry</p> <h3>Admission</h3> <p>Application for admission to the Faculty of Land and Food Systems must be made through Enrolment Services. Procedures, policies, and admission requirements for the University of British Columbia and the Faculty of Land and Food Systems are specified in the Admissions section of the UBC Academic Calendar as well as online at you.ubc.ca.</p> <h4>Admission from Secondary School</h4> <p>Admissibility is determined on the basis of a number of factors including performance in specific high school courses, the overall academic rigor of the program, evidence of relevant learning and achievements both in and out of school, and other indicators of suitability for the Bachelor of Science programs offered through the Faculty of Land and Food Systems at UBC.</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,793,0</p> <p>Present Calendar Entry:</p> <h3>Admission</h3> <p>Application for admission to the Faculty of Land and Food Systems must be made through Enrolment Services. Procedures, policies, and admission requirements for the University of British Columbia and the Faculty of Land and Food Systems are specified in Admissions. Please see the specific program of interest—Applied Biology, Food, Nutrition and Health, or Global Resource Systems for admission requirements.</p> <p>Students admitted to the Faculty of Land and Food Systems by transfer from other post-secondary institutions must have met the Communication Requirement of the Faculty or be eligible to enrol in first-year English at the time of admission.</p> <p>Details can be found at you.ubc.ca/admissions/</p> |

Details are available from you.ubc.ca.

Admission as a Post-Secondary Transfer Student or With a Previous Degree

Students applying to the Faculty of Land and Food Systems by transfer from other post-secondary institutions or with a previous degree should note that, as per the University's policy on [Requirements to Receive a Degree or Diploma](#), they will be required to complete at least 50% of their program's required course load while registered in their LFS program.

No more than 60 credits of transfer credits will be applied to a student's UBC academic record, and credit will be assigned as follows:

- For post-secondary transfer students, transfer credit from other post-secondary institutions will be assessed by the UBC Undergraduate Admissions Office at the point of admission and in accordance with articulation agreements between UBC and other post-secondary institutions.
- For students with a previous degree, transfer credit from other post-secondary institutions will be assessed by an LFS Program Advisor after admission, in accordance with articulation agreements between UBC and other post-secondary institutions.

Please note, not all transfer credit is necessarily applicable to a student's degree program. As such, when students present in excess of 60 transfer credits, the Faculty will determine which 60 credits are most applicable to the degree program. Students can learn more

at [Maximum Allowable Transfer Credit](#).

Transfer applicants to the Faculty of Land and Food Systems must also present the required high school academic pre-requisites, as listed in [Admission](#). In some cases, university transferable coursework may satisfy these pre-requisites. These courses are critical to degree progression within the Faculty.

Students admitted to the Faculty of Land and Food Systems by transfer from other post-secondary institutions must have met the [Communication Requirement](#) of the Faculty or be eligible to enrol in first-year English at the time of admission. Students who do not meet the Communication Requirement at the time of admission should be aware that their registration may be blocked or restricted and they will not be promoted to higher year levels until this requirement has been met. See the Faculty's promotion rules [here <<link to new "Year Promotion and Academic Standing" URL>>](#).

Students admitted by transfer will be admitted to the year level that is appropriate according to the Faculty's [Promotion Requirements <<link to new "Year Promotion and Academic Standing" URL>>](#). The Promotion Requirements are based on the number of credits completed, and the degree of completion of required courses of the student's program.

UBC Langara Aboriginal Transfer Partnership

To be eligible to transfer to UBC into the Faculty of Land Food Systems through

UBC Langara Aboriginal Transfer Partnership

To be eligible to transfer to UBC into the Faculty of Land Food Systems through this [partnership](#), Aboriginal students must

this [partnership](#), Aboriginal students must meet the general requirements for admission as a [post-secondary transfer student](#) as well as the following specific requirements:

- Successful completion of at least 48 (and no more than 60) credits (within the last four years). Students who present at least 54 credits, and have completed all first-year requirements (with the exception of LFS 100), may be eligible for third-year standing;
- An academic average of at least 2.67¹ or greater on the most recent 30 credits of transferable courses attempted, including failed and retaken courses;
- Completion of required high school academic pre-requisites. In some cases, university transferable coursework may satisfy these pre-requisites;
- Successful completion of the Transition Plan offered by Langara in collaboration with UBC;
- Consultation with the LFS [Academic Advisor, Aboriginal Students](#) on course selection while at Langara.

Applicants who do not meet these requirements may be considered for admission as a [transfer student](#) and can be considered through [UBC's Aboriginal Admissions Policy](#)

For more information about the UBC Langara Aboriginal Transfer Partnership, please visit the [website](#).

¹If in a particular year the competitive

meet the general requirements for admission as a [post-secondary transfer student](#) as well as the following specific requirements:

- Successful completion of at least 48 (and no more than 60) credits (within the last four years). Students who present at least 54 credits, and have completed all first-year requirements (with the exception of LFS 100), may be eligible for third-year standing;
- An academic average of at least 2.67¹ or greater on the most recent 30 credits of transferable courses attempted, including failed and retaken courses;
- Completion of required high school academic pre-requisites. In some cases, university transferable coursework may satisfy these pre-requisites;
- Successful completion of the Transition Plan offered by Langara in collaboration with UBC;
- Consultation with the LFS [Aboriginal Student Coordinator](#) on course selection while at Langara.

Applicants who do not meet these requirements may be considered for admission as a [transfer student](#) and can be considered through [UBC's Aboriginal Admissions Policy](#)

For more information about the UBC Langara Aboriginal Transfer Partnership, please visit the [website](#).

¹If in a particular year the competitive

admission criteria is lower than 2.67, then the applicants in that year will be evaluated against the lower admission criteria.

Students Applying to LFS from Another Program at UBC

Students who are currently enrolled in another program at UBC and wish to transfer in to a program in the Faculty of Land and Food Systems must complete the 'Change of Degree Program/Campus' application available through their Student Service Centre (SSC). Students applying for admission from another UBC program are subject to the requirements noted above under "Admission as a Post-Secondary Transfer Student or With a Previous Degree."

Details can be found [here](#). Applications must be received by May 15.

Students Applying for Readmission

Students who have previously attended the Faculty of Land and Food Systems, left in good academic standing, have been away from their studies for more than one academic year and wish to return to their previous program of study should consult the [Readmission](#) section of the UBC Academic Calendar for details.

Students who have previously attended the Faculty of Land and Food Systems, left in good academic standing and have been away for less than one academic year, and wish to return to their previous program of study may do so without re-application. Students should consult the [Academic Leave](#) section of the UBC

admission criteria is lower than 2.67, then the applicants in that year will be evaluated against the lower admission criteria.

Academic Calendar.

Students who have previously attended the Faculty of Land and Food Systems, and were required to discontinue from the Faculty or withdraw from the University and wish to return to their previous program of study should consult the **Faculty's Guidelines for Readmission** <<hyperlink to new section titled "Year Promotion and Academic Standing">>.

Students with questions about their status should consult with [LFS Student Services](#) prior to submitting an application.

Advising Office

The Faculty of Land and Food Systems Academic Advising Office (Student Services) is located in Room 344, MacMillan Building, 2357 Main Mall. The office can be reached by telephone at 604.822.2620 or by email at students@landfood.ubc.ca. For office hours, please visit us [online](#).

Email is the preferred means for the Faculty of Land and Food Systems administration and faculty members to communicate important messages to students. It is the responsibility of all LFS students to ensure their current email address is [accurately recorded](#) on the Student Service Centre (SSC) and to read emails sent to that account on a regular basis.

Advising Office

The Faculty of Land and Food Systems Academic Advising Office (Student Services) is located in Room 344, MacMillan Building, 2357 Main Mall. The office can be reached by telephone at 604.822.2620 or by email at students@landfood.ubc.ca. For office hours, please visit us [online](#).

Type of Action:

Updated and added content that wasn't previously here.
Updated URLs and job titles.

Rationale for Proposed Change:

Clarified policies, added content for different categories of students, and expanded details about admission for the purpose of better supporting students interested in applying to LFS.



16 February 2018

To: Vancouver Senate

From: Admissions Committee

Re: g) Memorandum of Agreement for Funding and Support of Doctoral Exchange Students between UBC and Southern University of Science and Technology (SUSTech)(approval)
h) Dual Degree Program Option – UBC Master of Management and Yale University Master of Management Studies (approval)
i) Enrolment Targets 2018-2019 (approval)

g) Memorandum of Understanding for Funding and Research Support of Doctoral Exchange Students Between UBC and Southern University of Science and Technology (SUSTech) (approval)

The Committee has reviewed and recommends to Senate for approval the terms of the affiliation agreement between the UBC Faculty of Applied Science and the Southern University of Science and Technology (SUSTech) College of Engineering. Under the agreement, UBC doctoral students will be provided funding support and access to research opportunities at SUSTech research facilities. Faculty members from SUSTech may also serve on the student's supervisory committee. The arrangement will be limited to 20 students per year. No changes to UBC admission or program requirements are proposed under the agreement.

Motion: *That Senate approve and recommend to the Council of Senates for approval the terms of the affiliation between UBC and SUSTech, as set out in the "Memorandum of Agreement for Funding Support and Research Exchanges for UBC Doctoral Students Between the College of Engineering Southern University of Science and Technology (SUSTech) and the Faculty of Applied Science University of British Columbia."*

h) Dual Degree Program Option – UBC Master of Management and Yale University Master of Management Studies (approval)

The Committee has reviewed and recommends to Senate for approval the UBC Master of Management and Yale University Master of Management Studies dual degree program option. The program will enable students to complete a UBC Master of Management and a Yale University Master of Management Studies in 2 years of study and provide students access to career and student services at Yale University. No changes to UBC admission or program requirements for the UBC Master of Management are proposed under the arrangement.

Motion: *That Senate approve the proposed Calendar entry on the Dual Degree Program Option: UBC Master of Management/Yale University Master of Management Studies; and*



Motion: *That Senate recommend to the Council of Senates for approval the terms of the affiliation between UBC and Yale University as set out in the “Memorandum of Understanding Between Yale University on Behalf of Its School of Management and the University of British Columbia on Behalf of UBC Sauder School of Business.”*

i) Enrolment Targets 2018-2019 (approval)

The Committee has reviewed and recommends to Senate for approval enrolment targets for the 2018-2019 academic year, as outlined by Faculty, program and year-level.

Motion: *That Senate approve and forward to the Board of Governors for approval the 2018/2019 Enrolment Targets, as per section 27(2)(r) of the University Act.*

Respectfully submitted,

Prof. Carol Jaeger, Chair
Senate Admissions Committee



MEMORANDUM OF AGREEMENT

for

**FUNDING SUPPORT AND RESEARCH EXCHANGES
FOR UBC DOCTORAL STUDENTS**

between

**COLLEGE OF ENGINEERING
SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY
("SUSTECH")**

and

**THE FACULTY OF APPLIED SCIENCE
THE UNIVERSITY OF BRITISH COLUMBIA ("UBC")**

WHEREAS

A: The Southern University of Science and Technology ("SUSTech"), located in Shenzhen, Guangdong, China, offers undergraduate degree in a variety of disciplines including in the applied sciences and maintains research facilities at its campus.

B: The University of British Columbia ("UBC"), with campuses in the Province of British Columbia, Canada, offers undergraduate, graduate and postgraduate programs in a variety of disciplines, including in the applied sciences.

C: SUSTech wishes to facilitate students from around the world continuing their studies in the applied sciences at the PhD level at UBC through the provision of:

- a) funding support;
- b) provision of research opportunities at SUSTech research facilities;
- c) making its faculty members available to act as supervisors, where appropriate, on the UBC supervisory committee appointed for its students.

The parties agree as follows:**1) Program Overview**

SUSTech and UBC agree to collaborate to facilitate students progressing in PhD programs in the UBC Faculty of Applied Science as follows:

- a) Potential candidates will apply to SUSTech for SUSTech funding support ("SUSTech Funding") in accordance with SUSTech's criteria;
- b) UBC and SUSTech will make potential candidates aware of the SUSTech Funding, and will encourage potential candidates to apply to SUSTech for the SUSTech Funding.
- c) Students who have obtained SUSTech Funding may apply for admission to UBC in accordance with UBC's application processes. The list of students will be provided to UBC by SUSTech.

d) UBC will, in consultation with SUSTech, establish for each student candidate:

- i) The title and details of the research proposal for PhD or postdoctoral research project;
- ii) a research supervisor from UBC;
- iii) if a faculty member from SUSTech is proposed to be a co-supervisor, or other member of the student's supervisory committee, the name of that SUSTech faculty member, with confirmation that the supervisor is approved in accordance with UBC's procedures;
- iv) details regarding supervision arrangements including proposed frequency and approach to communication with the candidate and member of the supervisory committee, communication between committee members and how progress is going to be monitored and reported;
- v) the period of time the student will be resident at UBC;
- vi) the period of time the student will be visiting SUSTech facilities to conduct research;
- vii) details of funding support for the student, including support for supervisory faculty travel (where applicable).

e) The parties expect that students will take advantage of existing research collaborations that exist between faculty at UBC and SUSTech. It is not the expectation that students are required to create research collaborations between the two institutions.

2) Application and selection procedures

a) Applicants must apply to SUSTech in accordance with the deadlines and procedures of SUSTech. SUSTech will conduct first screening and provide a shortlist of applicants to UBC. Shortlisted applicants must apply to UBC through the standard online graduation application system and in accordance with the deadlines and procedures established by UBC.

b) Final decisions on admission to the University of British Columbia will be the sole responsibility of UBC. A precondition to offers of admission to UBC under this agreement will be the applicant being awarded SUSTech funding and research support from SUSTech as well as the confirmation of all matters listed in section 1(d) of this agreement.

c) Applicants also must apply for funding and research support to SUSTech in accordance with deadlines and procedures set by SUSTech in consultation with UBC. SUSTech will notify UBC of its deadline each year.

d) SUSTech will provide UBC with a list of students who have successfully applied for SUSTech funding and research support from SUSTech. UBC will confirm which of the listed students have been accepted to a UBC PhD program.

e) Prior to each UBC Academic Year (September to August) UBC and SUSTech will agree in writing on how many students can be accepted pursuant to this program. The parties agree that in the first year no more than 20 students will be accepted into the program. Notwithstanding the above, nothing in this agreement requires UBC to accept students unless they meet all eligibility requirements for admission to a PhD program at UBC on a competitive basis.

3) Fees and other Costs

a) UBC will pay directly to each international PhD student an International Tuition Award each UBC Academic Year for each year the student maintains satisfactory academic progress in their program. The 2016/17 amount for the International Tuition Award is \$3,200.00 and may be adjusted by UBC annually.

b) SUSTech agrees the SUSTech Funding paid to UBC students (the "SUSTech Funding") will amount to not less than CAN\$25,000 per year for four years regardless of the physical location of the student. The student will use such amounts to pay any tuition owing and to pay for his or her cost of living expenses, whether while located at UBC or at SUSTech.

c) All SUSTech Funding will be provided directly to the student by SUSTech. For students recruited from China, the equivalent of the amount stipulated in section 3(b) for one year will be converted to RMB and deposited to their bank accounts in China no later than one month before their program at UBC begins, and will be paid at the same time on a yearly basis afterwards; for students recruited from outside of China, SUSTech will work with the Educational Consulate office at Chinese General Consulate in Vancouver to ensure the payment of scholarship funds to students in Canadian dollars no later than one month prior to the commencement of their program and at the same time on a yearly basis thereafter.

d) SUSTech Funding may take the form of scholarships or grants provided by SUSTech to each student provided the form of funding is approved by UBC in advance. The SUSTech funding will not take the form of employment income.

e) In the event a student takes longer than four years to complete their studies at UBC the student will need to find financial support from other sources, which may include RA or TAs at UBC.

f) UBC and SUSTech may increase the students' financial support according to their then current practices.

g) Students are required to pay to UBC all tuition and mandatory student fees and other fees required of UBC through the normal procedures at UBC during the entire period they are enrolled at UBC, regardless of their physical location. Students are responsible for all their costs of living and study including lodging and travel costs, study and living expenses, application fees, visa fees, and insurance fees incurred.

h) Students will be required to pay student fees while staying at SUSTech, in an amount equivalent to local student's fees set by SUSTech, and agreed to by UBC. Students will not be required to pay tuition at SUSTech.

i) Neither party may reduce the funding provided to students pursuant to this agreement if the student obtains additional funding from other sources.

j) Unless stated otherwise in this agreement, UBC and SUSTech are responsible for the costs of meeting their obligations pursuant to this agreement.

4) Academic Status of Students

a) Students will be enrolled in a UBC PhD program and will be governed solely by UBC's academic rules and regulations. All decisions regarding the student's academic program will be made solely by UBC, guided by the student's supervisory committee.

b) Students will maintain their registration and student status at UBC during their entire program regardless of their physical location.

c) Students will be registered at UBC in the PhD program. While conducting research at SUSTech facilities, SUSTech will require students to have the enrolment status as a SUSTech visiting student.

d) The parties agree that this is not a joint degree program, co-tutelle program or dual degree program.

e) The parties acknowledge that they may explore the possibility of a Joint PhD program in the future, provided that prior to commencement any such program would require a legally binding agreement approved by the governing bodies of each party and executed by the authorized signatories of each party.

5) Registration and residency requirement

a) Students are required to meet the residency requirements at UBC for UBC PhD programs, which will normally be at least two consecutive years at UBC. Any deviation from this requirement must be approved by UBC in accordance with its rules. UBC will require at a minimum that all students commence their studies at UBC campus and remain at UBC campus until at least they are advanced to candidacy. To be eligible for SUSTech funding students are also required to be located at SUSTech campus for at least two years.

b) All course work will be completed at UBC unless specific approval is given to students to undertake courses at SUSTech or another institution.

c) PhD Students may apply to UBC to extend their program duration at UBC. Students at UBC are permitted six years to complete their programs and may apply to UBC for additional time in certain circumstances. All such decisions rest solely with UBC.

d) The decision to extend SUSTech Funding beyond four years, and to permit students to continue research at SUSTech facilities, rests solely with SUSTech.

6) Accommodation

a) At UBC, each student will be responsible for obtaining and paying for his or her accommodation. Students will be eligible to apply for on-campus student housing, which is allocated on a first-come first served basis.

b) At SUSTech, the University will provide on-campus student housing to visiting UBC students at the student's expense.

7) Supervision

a) The constitution and appointment of a supervisory committee for each student is UBC's sole responsibility. It is anticipated that each student supervisory committee will contain a member of SUSTech's faculty who will be responsible for supervision of the students' research while the student is located at SUSTech.

b) In accordance with UBC rules and regulations, all non-UBC faculty members acting on student supervisory committees must be approved on an individual basis by UBC's Faculty of Graduate and Post-Doctoral Studies.

8) Comprehensive (Qualifying) Examination

a) PhD Students are required to pass Comprehensive (Qualifying) Examination(s) in accordance with the rules and regulations of UBC and the specific requirements of the relevant UBC PhD program. The Comprehensive (Qualifying) Examination(s) will be taken at UBC in accordance with its rules and regulations.

9) Degree Conferment

a) A PhD student who successfully completes his or her degree requirements will be conferred a Doctor of Philosophy (PhD) degree by UBC.

b) Students may be issued a certificate from SUSTech recognizing the research the students undertook at SUSTech. The form of such certificate must be approved by UBC prior to the arrival of the first students at UBC. For greater certainty it is agreed the certificate will not make any reference to UBC.

10) Intellectual Property

a) The parties agree that a separate agreements will be negotiated for each research project undertaken by students at SUSTech facilities. Such agreements will address the ownership and management of intellectual property and the use of confidential information and data.

b) The parties agree that any agreements governing research must preserve the right of students to publish their thesis in a timely fashion in accordance with UBC policy.

c) The student thesis and any other scholarly writing produced by the student will provide attribution in accordance with good scholarly practice which, as appropriate, may reference the contribution of SUSTech professors and use of SUSTech facilities. SUSTech agrees that for the student's thesis, UBC can be the sole educational institution. But for academic papers and other scholarly writings, SUSTech, UBC and any other involved institutions may be listed in an order mutually agreed by the authors in accordance with good scholarly practices.

11) Trademarks, Publicity and Advertising

a) The name, trademarks, crests and logos (the "Trademarks") of each party are the intellectual property of that party, and may not be used without that party's express written permission for each specific usage. Without limiting the forgoing each party agrees to:

- i) seek the written consent of the use of the other parties trademarks in any webpages, press releases, advertising or other documents designed for public disclosure that relate to this agreement;
- ii) comply with all instructions issued by the other party relating to the form and manner in which its Trademarks shall be used and to discontinue immediately, upon notice from the other party any practice relating to the use of its Trademarks;
- iii) refrain from using or permitting anyone else to use its Trademarks in its corporate name or in any business trade name;
- iv) refrain from contesting the title of Trademarks or effecting any registrations thereof in any jurisdiction;
- v) refrain from the alteration of the other parties Trademarks; and
- vi) cease to use the Trademarks of a party in any manner when instructed by that party.

b) SUSTech agrees that:

- i) it will not describe or promote the program as a joint degree program, dual degree program, co-tutelle program and any other joint academic program with UBC.
- ii) it will not hold itself out as having any role in the development of UBC PhD programs or as being a partner in the operation of UBC PhD programs;

12) Senate Approvals

Notwithstanding its execution by both parties, it is a condition precedent of this agreement that this agreement be approved by the UBC Senate and this agreement will only come into force upon receipt of such approvals. UBC agrees to diligently proceed to obtain such approval. If such approval is not obtained within six months of the date of this agreement then this Agreement will automatically be null and void.

13) Dispute Resolution

a) Both parties commit in good faith to attempt to resolve any disputes on the

terms of this agreement by seeking friendly, mutually acceptable resolutions.

b) This agreement is governed by, and will be construed in accordance with, the laws of British Columbia and the laws of Canada in force in that province, without regard to its conflict of law rules. The Parties agree that the British Columbia Supreme Court has exclusive jurisdiction over this agreement provided however, that nothing herein will affect a Party's right to record and enforce in any jurisdiction outside British Columbia a judgment or award that is granted by a British Columbia court or a court having appellate jurisdiction thereover.

c) This agreement has been written in English and may subsequently be translated into Chinese for the convenience of the parties. In the event of any ambiguity of interpretation or inconsistency between the terms set forth herein in English and the terms set forth in any translation, and for all official purposes, the provisions set forth herein in English shall prevail.

d) Any dispute between UBC and its students will be determined solely in accordance with UBC's procedures, rules and regulations.

15) Coordination of activities

Each party will designate a coordinator of activities to advance and implement the program, and the designated coordinators for the agreement are:

For UBC:

Professor XiaoTao Bi (Tony)
Chemical and Biological Engineering
Vancouver Campus
2360 East Mall
Vancouver, BC Canada V6T 1Z3
Tel 604 822 3238
Email: tony.bi@ubc.ca

For SUSTech:

Professor Tao Tang
Vice President (Research) and Dean of Graduate School
Southern University of Science and Technology
1088 Xueyuan Blvd., Nanshan Distric, Shenzhen
China
Tel: +86 755 88010456
Email: vpr@sustc.edu.cn

16) Duration and Termination

a) This agreement will be effective for a period of five years, at which time it

will be reviewed for possible renewal for a further five-year period. Any variations to the terms of this agreement must be mutually agreed upon in writing and approved by the authorized officers of each party.

b) Either party may, with a six months' notice in writing, terminate the agreement in advance of its normal expiration.

c) Either party may, immediately upon written notice, terminate this agreement in the event of a material breach of this agreement by the other party.

d) Upon termination or expiry of the agreement, the parties will remain responsible under the terms of the agreement for the education and funding of students who have already been accepted to UBC for their PhD studies, in accordance with the terms of this agreement.

17) General

a) This agreement is not assignable without the prior written consent of the other party.

b) This agreement constitutes the entire agreement between the parties with respect to the matters described in this agreement, and the parties do not rely upon any representation or agreement whatsoever which is not incorporated in this agreement.

c) No amendment of this agreement is valid unless it is in writing and signed by the parties.

d) At this stage UBC does not in any way or for any purpose become a partner, a joint venturer or a member of joint enterprise with SUSTech. No provision of this agreement is intended to create a relationship between the parties other than that of independent contractors.

e) Any notice required or permitted under this agreement must be in writing and may be given by personal delivery, overnight courier, mail, email or facsimile transmission to the party at the following address:

If to UBC: Professor XiaoTao Bi (Tony)
Chemical and Biological Engineering
Vancouver Campus
2360 East Mall
Vancouver, BC Canada V6T 1Z3
Tel 604 822 3238
Email: tony.bi@ubc.ca

If to SUSTech: Professor Tao Tang
Vice President (Research) and Dean of Graduate School
Southern University of Science and Technology
1088 Xueyuan Blvd., Nanshan District, Shenzhen
China
Tel: +86 755 88010456
Email: vpr@sustc.edu.cn

Notices given by personal delivery will be deemed to have been received on the date of the delivery. Notices given by overnight courier, email or facsimile transmission will be deemed to have been received on the day following the date of delivery.

f) This agreement may be executed in counterparts and each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. A counterpart signed by a party hereto and transmitted by facsimile or scanned into Portable Document Format (PDF) and transmitted by e-mail shall have the same effect as a counterpart originally signed by such party.

g) Notwithstanding its date of execution, this agreement will commence on November 7, 2016.

Signed by the Authorized signatories of the parties on November 7, 2016.

**For
The University of British Columbia:**

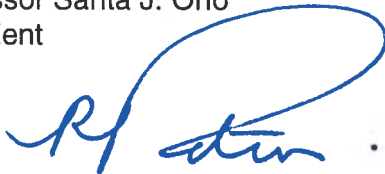
**For
Southern University of Science
and Technology:**



Professor Santa J. Ono
President



Professor Chen Shiyi
President



Professor Angela Redish
Provost and Vice President Academic



Mark Crosbie
Associate University Counsel

UBC Admission Proposal Form Change to Course or Program

| | |
|---|--|
| <p>Faculty: Commerce and Bus. Admin. Department: Faculty Approval Date: December 8, 2017 Effective Session (W or S): W Effective Academic Year: 2017</p> | <p>Date: October 11, 2017 Contact Person: Kin Lo Phone: 2-8430 Email: kin.lo@sauder.ubc.ca</p> |
| <p>URL: Homepage>>Faculties, Colleges, and Schools>>The Faculty of Commerce and Business Administration>>Professional Master's Degrees>>Dual Degree Program Option: UBC M.M./Yale M.M.S.</p> <p>Proposed Calendar Entry:</p> <p>UBC Master of Management Dual Degree with Yale Master of Management Studies in Global Business and Society Program Option.</p> <p>This distinctive program option offers qualified students the opportunity to earn, in 2 years, a Master of Management (MM) degree from UBC followed by a Master of Management Studies in Global Business and Society (MMS) degree from Yale University. The Yale MMS is a nine-month degree program, open only to MM program (or equivalent) graduates of business schools that are members of the Global Network for Advanced Management.</p> <p>Admissions Students apply to the UBC Sauder MM program and the Yale MMS program at the same time to enter the Dual Degree Option. Applicants to the program must meet the admission requirements of each institution</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,199,506,0 (link to new program on this page)</p> <p>Present Calendar Entry: None</p> <p>Type of Action: New Dual Degree program option between the Sauder School of Business at UBC Vancouver and the Yale University School of Management.</p> <p>Rationale for Proposed Change: The UBC MM – Yale MMS Dual Degree program partners the UBC Sauder School of Business with one of the top universities in the world to provide both Canadian and international students with a unique international learning opportunity by allowing UBC MM students to supplement UBC Sauder's academic rigour with a global perspective at Yale School of Management.</p> <p>After receiving rigorous academic business foundations through UBC MM, students in the dual degree option will engage in a</p> |

| | |
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| <p>and program, including evidence of academic achievement and intellectual readiness. Each school will evaluate and admit candidates for its respective degree program</p> <p>UBC will announce final decisions on admission to the Dual Degree Option before entry into the first academic year of the MM program.</p> <p>Students already enrolled in or recently graduated from the UBC Sauder MM program are eligible to apply to the Yale MMS outside of the Dual Degree Option. For students applying through this sequential admission process, UBC and Yale will announce admission decisions separately.</p> <p>Students in UBC's Undergraduate + Master of Management Dual Degree Option (UG+MM) are eligible to apply for this UBC MM + Yale MMS Dual Degree Option when they progress to the graduate portion of the UG+MM program using the sequential admission process.</p> <p>Degree Requirements</p> <p>Students in the Dual Degree Option are required to complete the full UBC MM program requirements to qualify for the MM component and full Yale MMS program requirements to qualify for the MMS component.</p> <p>Each institution manages its own degree requirements.</p> | <p>customized curriculum at Yale by furthering their understanding of major trends in global business and by engaging with distinguished leaders from all sectors. The dual degree option will enable students to benefit from the career services and alumni networks from both UBC and Yale. Earning two master's degrees from two world-class universities enhances the opportunities and global career prospects available to graduates.</p> <p>The Dual Degree Option with Yale allows UBC Sauder to market this program at the recruitment stage, in order to attract and select the best students who are interested in the program. Dual Degree Option with Yale is only available to students applying to MM programs in one of the 4 schools in the M2M agreement – UBC Sauder, HKUST, HEC Paris and FGV Brazil. Admission into the Dual Degree Option allows students to have early access to scholarships and funding at Yale and early access to resources at Yale for securing an internship in the gap months between completing UBC MM and starting Yale MMS in August.</p> |
|---|---|

Graduation

Students will graduate from each institution when they complete the program requirements of that institution. Students may attend the convocation ceremonies of both institutions. The student will receive two parchments:

1. UBC, Master of Management; and,
2. Yale, Master of Management Studies in Global Business and Society

For further information on the UBC MM and Yale MMS, including information on applying, please see the [UBC MM](#) and [Yale MMS](#) websites.

MEMORANDUM of UNDERSTANDING
BETWEEN
YALE UNIVERSITY
ON BEHALF OF ITS SCHOOL OF MANAGEMENT
AND
THE UNIVERSITY OF BRITISH COLUMBIA
ON BEHALF OF UBC SAUDER SCHOOL OF BUSINESS

As members of the Global Network for Advanced Management, which is comprised of a number of schools proposing the development of a number of bilateral Double Degree agreements among themselves under the M2M label (the “**M2M Program**”), the University of British Columbia (**UBC**) on behalf of UBC Sauder School of Business (**Sauder**) and Yale University (**Yale**) on behalf of its School of Management (**Yale SOM**) wish to enter into this Memorandum of Understanding (**MOU**) to establish a double degree option as set forth below.

1. The purpose of this MOU is to establish a double degree option (the “**Double Degree Option**”) between the Sauder Master of Management Degree (“**MM Degree**”) and the Yale SOM Master of Management Studies in Global Business and Society Degree (“**MMS Degree**”). Students selected for the Double Degree Option will spend a first academic year in the Sauder MM Degree program and a second academic year in the Yale SOM’s MMS Degree program.
2. Admission and enrollment:
 - 2.1 **Admission for Concurrent Double Degree Option:** Applicants wishing to apply through the concurrent Double Degree Option will apply to Sauder for MM Degree program first and then select the Double Degree Option with Yale SOM for MMS Degree program. Applicants will have to comply with the admission requirements for both the MM Degree program and MMS Degree program. Final decisions on admission into the Double Degree Option will be announced by Sauder and Yale SOM before entry into the first academic year the Sauder MM Degree program. If an applicant is not selected by Yale SOM for the MMS Degree program, then Sauder reserves the right to admit the applicant into the MM Degree program. Yale SOM will not admit the applicant into the MMS Degree in connection with the Double Degree Option, unless Sauder agrees to admit such applicant into the MM Degree.
 - 2.2 **Admission for Consecutive Admission Progress:** Applicants from Sauder wishing to apply to the Yale SOM MMS Degree must be already enrolled in or recently graduated from the Sauder MM Degree program and then apply to Yale SOM for the MMS Degree.
 - 2.3 **Other Enrollment Requirements:** In connection with a party’s performance hereunder, neither party will discriminate against any individual on account of any characteristic protected by the laws of the jurisdiction of or the policies of either party. Except as may be waived by the Yale SOM in its sole discretion, all

admissions to Yale SOM MMS Degree Program (both concurrent and consecutive) will be conditional on the student remaining in good standing at Sauder and successfully completing the curriculum for the Sauder MM Degree and all other requirements set forth in Appendix 1. While attending each school, students will be subject to all policies, rules and procedures of that school including but not limited to those applying to any academic or behavioral misconduct

3. Both schools may market the Double Degree Option to prospective students as long as they emphasize that each school separately and independently evaluates and admits candidates for its respective degree program, and that degrees are similarly granted separately and independently.
4. UBC and Yale both understand that neither party hereto shall make use of the other party's trademarks, trade names, logos nor any other intellectual property without the express prior written approval of the other party for each instance of use to ensure appropriate graphic specifications and corporate guidelines are strictly followed.
5. There shall be no exchange of funds between the two schools as a result of the Double Degree Option. Students are expected to settle any tuition obligations separately with each school. Each school may separately and independently award scholarships or other forms of financial aid to students participating in the Double Degree Option, as they would with students solely enrolled in the school's respective program. Each student must purchase the medical insurance required by Yale SOM and the cost of any medical insurance or expenses including all medications not covered by such insurance will be the personal responsibility of such student.
6. At the conclusion of each academic period, upon request, Yale SOM and Sauder will provide the relevant authority at the other school with an academic transcript for each student participating in the Double Degree Option.
7. Sauder MM Degree program students participating in the Double Degree Option who successfully complete both the Sauder MM and the Yale SOM MMS program will earn two distinct degrees: a MM from Sauder after successful completion of the first academic year and a MMS from Yale SOM after successful completion of the second academic year. Each of Sauder and Yale SOM will determine, according to its own criteria, if the student is entitled to receive its degree.
8. Each party agrees to conduct all its activities under this MOU in compliance with all applicable laws and regulations, including, without limitation, export control, human subjects research, anti-terrorism, and immigration laws. Each party acknowledges its obligation to comply with anti-corruption laws and each party represents and warrants that it has not and will not offer, promise or authorize the payment or provision of anything of value to an individual for the purpose of improperly influencing the individual or securing any improper advantage. Yale and UBC will

have no obligation to monitor or supervise students participating in the Double Degree Option while they are at the other school, and assume no responsibility for students' conduct or lack of compliance with the laws in the country of the other party. Each party reserves the right to dismiss any student whose academic performance or conduct warrants such action.

9. The MOU is initially valid for a period of five years. Thereafter it will renew itself automatically for successive periods of two (2) years, unless terminated in accordance with this section. UBC and Yale shall have the right to terminate the MOU by giving one year's notice in writing to the other party at any time. If the MOU is terminated by either party, any student admitted or already enrolled in the Double Degree Option shall be unaffected by the expiration or termination and shall be able to earn both degrees in the manner sketched above.
10. The parties agree to use their commercially reasonable efforts to settle any disputes or issues arising from or relating to this MOU or any conflict, whether perceived or actual, under the terms of this MOU (Dispute). Any such Dispute shall in the first instance be referred to the director of the MM/MMS program for each school (each referred to individually as a "Director" and collectively as the "Directors") in a good faith attempt to settle the Dispute by a mutually amicable conciliation within one (1) month after notification of the Dispute. If the Directors are unable to come to a mutually amicable solution to the Dispute, then the Dispute shall be escalated to both the Dean of Sauder and the Dean of Yale SOM. The Deans of each school shall attempt to resolve the Dispute in an amicable fashion and shall have up to one (1) month after receipt of such request from the Director of each school to attempt to resolve the Dispute. If the Dispute shall not have been resolved within one (1) month following escalation to the Deans, then either party may proceed individually at their discretion to resolve the Dispute.
11. The MOU may be modified or amended only by written agreement between the parties.
12. Any notice, request, consent or communication under this MOU shall be effective only if it is in writing and (i) personally delivered, (ii) sent by an internationally recognized overnight delivery service, with delivery confirmed or (iii) sent by facsimile or email, with receipt confirmed, and in each case addressed to each party at the address set forth below. A notice shall be deemed to have been given as of the date received by the intended recipient.

For Yale:

Yale School of Management
Dean Edward Snyder
165 Whitney Ave
New Haven, CT 06511

With a copy to:

Cynthia Carr
Deputy General Counsel
Office of the Vice President and General Counsel
Yale University
2 Whitney Avenue
New Haven CT 06510
Email: cynthia.carr@yale.edu
Fax: 203 432 7960

For UBC:

Teresa Pan
Assistant Dean
Robert H. Lee Graduate School
UBC Sauder School of Business
137G – 2053 Main Mall
Vancouver, B.C. Canada V6T 1Z2

With a copy to:

Office of the University Counsel
University of British Columbia
6328 Memorial Road
Vancouver, B.C.

Canada V6T 1Z2

13. This MOU shall enter into effect upon the signature of authorized officials from UBC and Yale.

The University of British Columbia

Signature

Name: Robert Helsley
Title: Dean, Sauder School of Business

Date/Place: _____

**Yale University
School of Management**

Signature

Name: Anjani Jain
Title: Acting Dean

Date/Place: _____

The University of British Columbia

Signature

Name:
Title:

Date/Place: _____

Yale University

Signature

Name: Stephen C. Murphy
Title: Vice President for Finance and
Chief Financial Officer

Date/Place:

APPENDIX 1

Sauder MM Degree program students have to complete Sauder MM Degree requirements as per information published on Sauder MM Degree program Website prior to their enrollment in the Yale SOM MMS program:
http://www.sauder.ubc.ca/Programs/Master_of_Management/Program_Overview

Full-time practical work experience:

In addition, students are required to complete a practical experience. An eligible experience will consist of full-time work for at least 12 weeks in the same organization, at a professional level (first job level of a graduate recruit) where students are given one or more challenging projects with a certain degree of autonomy. Students may acquire this relevant work experience before joining the Double Degree Option or during the period between the Sauder MM Degree program and the Yale SOM MMS Degree program.

Budgetary Impact of Curriculum Proposals

From: Kin Lo**Date: 2018 Jan 23**

| | |
|---------------------------------|--|
| Dept./School: | Faculty: Commerce and Business Administration |
| Phone: 604-822-8430 | Fax: 604-822-8468 |
| E-mail: kin.lo@sauder.ubc.ca | |

Program(s)/Course change(s) that this form applies to:
(one form may be used for multiple changes with similar budgetary impact)

- UBC/Yale MM-MMS Dual Degree

Indicate the budgetary impact or implications of the proposed curriculum changes and provide a brief explanation of additional resources, if required (please attach if lengthy):

- There is no budgetary impact other than promotional costs for the program. The two degree programs (MM at UBC, MMS at Yale) operating consecutively and affects neither tuition received nor courses delivered.

Select from one of the following two choices:

- ☒ NO. The Faculty does NOT require additional budget to implement the proposed curriculum changes.
- ☐ YES. Additional budget IS required to implement this curriculum change. A brief explanation is requested.

Signature of Department Head: n/a Date: _____

Signature of Faculty Dean: (for Robert Helsley)  Date: 2018 Jan 23

Signature of University Librarian _____ Date: _____
(if additional library resources required)

Signature of Provost: _____ Date: _____
(mandatory for all new program proposals and for significant curriculum changes that may have a budgetary impact)

January 18, 2018

To: Members of the Senate Admissions Committee

From: Pam Ratner, Vice-Provost and AVP Enrolment & Academic Facilities

Re: 2018/19 Academic Year Undergraduate Intake Targets for UBC Vancouver



I am very pleased to provide the total enrolment projections (by fiscal year) and 2018/19 intake targets (by academic year) based on the strategic planning decisions of the Faculties. Specific intake targets for undergraduate programs are set by the Offices of the Deans of all Faculties, in consultation with the Provost's Office, the Office of Planning and Institutional Research (PAIR), Enrolment Services, and the International Student Initiative. Intake targets take into account: the provincial government's mandate regarding overall domestic student enrolment (measured as FTEs); the University's strategic goals; and both the opportunities and capacities of the departments and schools to provide excellent undergraduate education and appropriate levels of support for students.

Actual FTE Undergraduate and Resident Enrolment for Fiscal Year, 2017/18

In the current 2017/18 fiscal year, UBC Vancouver's full-time equivalent (FTE) enrolment as of March 31, 2018, is projected to be 40,532.¹ This includes 29,861 (73.7%) domestic undergraduate FTEs (an increase of 121 FTEs, and 0.4%, over the previous year), and 1,456 residents. UBC Vancouver is currently 1,675 FTEs (5.7%) above the 2017/18 government-funded target of 29,641 undergraduate and resident FTEs (see Table 1). Table 2 provides the domestic and international (ISI) FTE enrolment by faculty.

Proposed Undergraduate Headcount Intake Targets for Winter 2018/19

The proposed direct-entry domestic undergraduate student intake targets (in headcounts) for the forthcoming 2018/19 academic year remain largely unchanged from the 2017/18 targets (30 more students; see Table 3A). In addition, the faculties are proposing that we register 133 more ISI direct-entry undergraduate students in 2018/19 (see Table 3A). Planned intakes for other undergraduate programs, including post-baccalaureate, certificate, and non-degree programs (e.g., visiting, unclassified, access studies) are shown in Table 3B.

Projected Total Headcount Enrolment for Winter 2018/19

The proposed intake target plan projects 249 fewer domestic undergraduate students (0.7%) (in all programs) and 578 (5.7%) more ISI undergraduate students in Winter 2018. Table 4A provides the projected total domestic and ISI undergraduate enrolment for 2018/19 through 2022/23, by faculty. Table 4B provides the projected percentage of ISI undergraduate enrolment, by faculty.

¹ Projected from November 1, 2017 to March 31, 2018.

Projected Total FTE Enrolment for Fiscal Year, 2018/19

The proposed intake target plan is expected to lead to a reduction of 55 total domestic undergraduate FTEs (-0.2%) and an increase of 431 (4.7%) ISI undergraduate FTEs in fiscal year 2018/19 (see Table 2). With the addition of 100 FTEs in undergraduate engineering and computer science for 2018/19, recently announced by the Government of BC, the university anticipates being at 104.7% of undergraduate and resident government target in 2018/19 (see Table 1).

Normal Load FTE by Fiscal Year

Table 1: UBCV Domestic Normal Load FTE vs Government Targets, by Fiscal Year

| | | Actual | | Projected | | | | |
|---|--------------------|---------|---------|-----------|---------|---------|---------|---------|
| | | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| Government Target (UBCV Undergraduates & Residents) | | 29,641 | 29,641 | 29,741 | 29,741 | 29,741 | 29,741 | 29,741 |
| UBCV Domestic NL FTE | Undergraduate | 29,740 | 29,861 | 29,806 | 29,743 | 29,724 | 29,798 | 29,877 |
| | Resident | 1,432 | 1,456 | 1,345 | 1,398 | 1,431 | 1,452 | 1,466 |
| | Grand Total | 31,172 | 31,316 | 31,151 | 31,141 | 31,155 | 31,250 | 31,342 |
| Unfunded | | 1,531 | 1,675 | 1,410 | 1,400 | 1,414 | 1,509 | 1,601 |
| Percent of Target | | 105.2% | 105.7% | 104.7% | 104.7% | 104.8% | 105.1% | 105.4% |

Table 2: UBCV Normal Load FTE by Faculty and Fiscal Year

| Domestic/ ISI | Category | Faculty | Actual | | Projected | | | | |
|--------------------------|----------------------|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | | | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 |
| Domestic | Undergraduate | Applied Science | 4,002 | 3,929 | 3,924 | 3,951 | 4,011 | 4,081 | 4,130 |
| Domestic | Undergraduate | Arts | 8,315 | 8,320 | 8,239 | 8,134 | 8,048 | 7,985 | 7,954 |
| Domestic | Undergraduate | Dentistry | 325 | 328 | 326 | 337 | 337 | 341 | 342 |
| Domestic | Undergraduate | Education | 2,430 | 2,565 | 2,605 | 2,549 | 2,549 | 2,567 | 2,592 |
| Domestic | Undergraduate | Forestry | 609 | 616 | 623 | 637 | 648 | 652 | 654 |
| Domestic | Undergraduate | Land & Food Systems | 1,073 | 1,061 | 1,106 | 1,160 | 1,208 | 1,232 | 1,268 |
| Domestic | Undergraduate | Law | 532 | 535 | 556 | 574 | 575 | 575 | 575 |
| Domestic | Undergraduate | Medicine | 1,282 | 1,298 | 1,306 | 1,325 | 1,319 | 1,312 | 1,315 |
| Domestic | Undergraduate | Pharmaceutical Sciences | 873 | 881 | 934 | 998 | 1,053 | 1,111 | 1,116 |
| Domestic | Undergraduate | Sauder | 2,764 | 2,792 | 2,709 | 2,653 | 2,629 | 2,628 | 2,629 |
| Domestic | Undergraduate | Science | 6,561 | 6,529 | 6,539 | 6,485 | 6,409 | 6,374 | 6,362 |
| Domestic | Undergraduate | No Faculty | 975 | 1,007 | 940 | 940 | 940 | 940 | 940 |
| Domestic | Undergraduate | Total | 29,740 | 29,861 | 29,806 | 29,743 | 29,724 | 29,798 | 29,877 |
| Domestic | Resident | Dentistry | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| Domestic | Resident | Medicine | 1,389 | 1,408 | 1,297 | 1,348 | 1,381 | 1,402 | 1,416 |
| Domestic | Resident | Pharmaceutical Sciences | 40 | 44 | 44 | 46 | 46 | 46 | 46 |
| Domestic | Resident | Total | 1,432 | 1,456 | 1,345 | 1,398 | 1,431 | 1,452 | 1,466 |
| Domestic | Total | Total | 31,172 | 31,316 | 31,151 | 31,141 | 31,155 | 31,250 | 31,342 |
| ISI | Undergraduate | Applied Science | 1,017 | 1,210 | 1,306 | 1,377 | 1,440 | 1,488 | 1,514 |
| ISI | Undergraduate | Arts | 3,160 | 3,667 | 3,832 | 3,892 | 3,905 | 3,912 | 3,914 |
| ISI | Undergraduate | Dentistry | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| ISI | Undergraduate | Education | 108 | 125 | 128 | 126 | 123 | 121 | 123 |
| ISI | Undergraduate | Forestry | 332 | 438 | 490 | 533 | 549 | 555 | 557 |
| ISI | Undergraduate | Land & Food Systems | 325 | 411 | 461 | 506 | 551 | 586 | 626 |
| ISI | Undergraduate | Law | 13 | 15 | 14 | 14 | 14 | 14 | 14 |
| ISI | Undergraduate | Sauder | 1,391 | 1,417 | 1,407 | 1,412 | 1,408 | 1,395 | 1,389 |
| ISI | Undergraduate | Science | 1,249 | 1,461 | 1,551 | 1,572 | 1,563 | 1,573 | 1,583 |
| ISI | Undergraduate | Vantage College | 311 | 348 | 338 | 355 | 372 | 390 | 390 |
| ISI | Undergraduate | No Faculty | 153 | 122 | 119 | 119 | 119 | 119 | 119 |
| ISI | Total | Total | 8,061 | 9,216 | 9,647 | 9,908 | 10,046 | 10,155 | 10,232 |
| Grand Total Total | | Total | 39,233 | 40,532 | 40,798 | 41,049 | 41,201 | 41,405 | 41,575 |

Table 3A: UBCV Winter Session Intake Targets for Direct Entry Baccalaureate Programs

| Faculty | Degree | Year Level | Pathway | Domestic | | | | ISI | | | | Total | | | | | |
|-----------------|----------|------------|---------|----------------|----------------|------------------|-------------------------|----------------|----------------|------------------|-------------------------|----------------|----------------|------------------|-------------------------|-------|-------|
| | | | | Target 2017/18 | Actual 2017/18 | Proposed 2018/19 | Targets 2019/20 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed 2018/19 | Targets 2019/20 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed 2018/19 | Targets 2019/20 2020/21 | | |
| Applied Science | BASC | 1 | Vantage | 546 | 535 | 626 | 646 | 646 | 246 | 302 | 303 | 312 | 312 | 792 | 837 | 929 | 958 |
| | BASC | 2 | | 140 | 147 | 140 | 140 | 81 | 31 | 31 | 33 | 36 | 221 | 178 | 171 | 173 | |
| | BASC | 2 | | | | | | 33 | 35 | 37 | 35 | 36 | 33 | 35 | 37 | 35 | |
| | BASC | 3 | | 50 | 59 | 50 | 50 | | 15 | | | | 50 | 74 | 50 | 50 | |
| Applied Science | | | | 736 | 741 | 816 | 836 | 836 | 360 | 383 | 371 | 380 | 384 | 1,096 | 1,124 | 1,187 | 1,220 |
| Arts | BA | 1 | Vantage | 1,590 | 1,597 | 1,590 | 1,590 | 1,590 | 685 | 803 | 685 | 685 | 685 | 2,275 | 2,400 | 2,275 | 2,275 |
| | BA | 2 | | 420 | 462 | 360 | 360 | 180 | 269 | 228 | 227 | 221 | 600 | 731 | 588 | 587 | |
| | BA | 2 | | | | | | 109 | 83 | 121 | 122 | 128 | 109 | 83 | 121 | 122 | |
| | BA | 3 | | 400 | 356 | 360 | 360 | 108 | 142 | 148 | 148 | 148 | 508 | 498 | 508 | 508 | |
| Arts | BA | 4 | | | 2 | | | | | 1 | | | | 0 | 3 | 0 | 0 |
| | Arts | | 2,410 | 2,417 | 2,310 | 2,310 | 2,310 | 1,082 | 1,298 | 1,182 | 1,182 | 1,182 | 3,492 | 3,715 | 3,492 | 3,492 | |
| | BFA | 1 | | 42 | 48 | 60 | 60 | 16 | 12 | 16 | 16 | 16 | 58 | 60 | 76 | 76 | |
| | BFA | 2 | 49 | 28 | 17 | 17 | 17 | 20 | 15 | 7 | 7 | 7 | 69 | 43 | 24 | 24 | |
| Arts | BFA | 3 | | 20 | 32 | 32 | 32 | 32 | 7 | 14 | 8 | 8 | 8 | 27 | 46 | 40 | 40 |
| | BFA | 4 | | 4 | 10 | 2 | 2 | 2 | 1 | | 1 | | 5 | 11 | 2 | 2 | |
| | Arts | | 115 | 118 | 111 | 111 | 111 | 44 | 42 | 31 | 31 | 31 | 159 | 160 | 142 | 142 | |
| | BIE | 1 | 47 | 54 | 50 | 50 | 50 | 48 | 48 | 50 | 50 | 50 | 95 | 102 | 100 | 100 | |
| Arts | BIE | 2 | | 6 | 5 | 5 | 5 | | 8 | 5 | 5 | 5 | 0 | 14 | 10 | 10 | |
| | Arts | | 47 | 60 | 55 | 55 | 55 | 48 | 56 | 55 | 55 | 55 | 95 | 116 | 110 | 110 | |
| | BMS | 1 | 20 | 26 | 23 | 23 | 23 | 20 | 16 | 23 | 23 | 23 | 40 | 42 | 46 | 46 | |
| | BMS | Total | 20 | 26 | 23 | 23 | 23 | 20 | 16 | 23 | 23 | 23 | 40 | 42 | 46 | 46 | |
| Arts | BMUS | 1 | | 55 | 59 | 56 | 56 | 56 | 10 | 12 | 12 | 12 | 12 | 65 | 71 | 68 | 68 |
| | BMUS | 2 | | 7 | 7 | 4 | 4 | 4 | | | | | 7 | 7 | 4 | 4 | |
| | BMUS | 3 | | 10 | 3 | 4 | 4 | 4 | | 1 | | | 10 | 4 | 4 | 4 | |
| | BMUS | Total | 72 | 69 | 64 | 64 | 64 | 10 | 13 | 12 | 12 | 12 | 82 | 82 | 76 | 76 | |
| Arts | | | | 2,664 | 2,690 | 2,563 | 2,563 | 2,563 | 1,204 | 1,425 | 1,303 | 1,303 | 3,868 | 4,115 | 3,866 | 3,866 | |
| Forestry | BSCN | 1 | | 60 | 65 | 60 | 60 | 60 | 30 | 32 | 30 | 30 | 30 | 90 | 97 | 90 | 90 |
| | BSCN | 2 | | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | BSCN | 3 | | 2 | 3 | 2 | 2 | 2 | | | | | 2 | 3 | 2 | 2 | |
| | Forestry | Total | 62 | 68 | 62 | 62 | 62 | 40 | 42 | 40 | 40 | 40 | 102 | 110 | 102 | 102 | |
| Forestry | BSCW | 1 | | 20 | 14 | 18 | 18 | 18 | 10 | 13 | 12 | 12 | 12 | 30 | 27 | 30 | 30 |
| | BSCW | 2 | | | 1 | | | | 20 | 31 | 20 | 20 | 20 | 30 | 32 | 20 | 20 |
| | BSCW | 3 | | | | | | | | | 22 | 22 | 22 | 0 | 0 | 22 | 22 |
| | Forestry | Total | 20 | 15 | 18 | 18 | 18 | 30 | 44 | 54 | 54 | 54 | 50 | 59 | 72 | 72 | 72 |
| Forestry | BSF | 1 | | 60 | 49 | 55 | 55 | 55 | 15 | 21 | 20 | 20 | 20 | 75 | 70 | 75 | 75 |
| | BSF | 2 | | | 2 | | | | 10 | 13 | | | 10 | 15 | 0 | 0 | 0 |
| | BSF | 3 | | 5 | | 5 | 5 | 5 | | | 15 | 15 | 5 | 1 | 20 | 20 | 20 |
| | Forestry | Total | 65 | 51 | 60 | 60 | 60 | 25 | 35 | 35 | 35 | 35 | 90 | 86 | 95 | 95 | 95 |

Table 3A: UBCV Winter Session Intake Targets for Direct Entry Baccalaureate Programs

| Faculty | Degree | Year Level | Pathway | Domestic | | | | ISI | | | | Total | | | | | | | |
|---------------------|---------------------|------------|---------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|----------------|--------------------------|--------------------------|--------------------------|-----|
| | | | | Target 2017/18 | Actual 2017/18 | Proposed Targets 2018/19 | Proposed Targets 2019/20 | Proposed Targets 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed Targets 2018/19 | Proposed Targets 2019/20 | Proposed Targets 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed Targets 2018/19 | Proposed Targets 2019/20 | Proposed Targets 2020/21 | |
| Forestry | BSFS | 1 | | 30 | 22 | 30 | 30 | 30 | 15 | 13 | 5 | 5 | 5 | 45 | 35 | 35 | 35 | 35 | |
| | BSFS | 2 | | | | | | | 5 | 28 | 5 | 5 | 5 | 5 | 29 | 5 | 5 | 5 | |
| | BSFS | 3 | | | 1 | | | | | | 10 | 10 | 10 | 0 | 0 | 10 | 10 | 10 | |
| Forestry | BSFS | Total | Total | 30 | 23 | 30 | 30 | 30 | 20 | 41 | 20 | 20 | 20 | 50 | 64 | 50 | 50 | 50 | |
| | BUF | 1 | | 35 | 36 | 45 | 45 | 45 | 20 | 18 | 20 | 20 | 20 | 55 | 54 | 65 | 65 | 65 | |
| | BUF | 2 | | 3 | 1 | 5 | 5 | 5 | 10 | 3 | 10 | 10 | 10 | 13 | 4 | 15 | 15 | 15 | |
| Forestry | BUF | 3 | | | | | | | | | | | | | | | | | |
| | BUF | 3 | | | 3 | 12 | 12 | 12 | | 1 | | | | 0 | 4 | 12 | 12 | 12 | |
| | BUF | Total | Total | 38 | 40 | 62 | 62 | 62 | 30 | 22 | 30 | 30 | 30 | 68 | 62 | 92 | 92 | 92 | |
| Forestry | Total | Total | 215 | 197 | 232 | 232 | 232 | 232 | 145 | 184 | 179 | 179 | 179 | 360 | 381 | 411 | 411 | 411 | |
| | BKIN | 1 | | 190 | 186 | 190 | 193 | 200 | 20 | 24 | 23 | 24 | 25 | 210 | 210 | 213 | 217 | 225 | |
| | BKIN | 2 | | 20 | 26 | 23 | 24 | 24 | | 2 | | | | 20 | 28 | 23 | 24 | 24 | |
| Kinesiology | BKIN | 3 | | 93 | 105 | 96 | 103 | 106 | | 1 | | | | 93 | 106 | 96 | 103 | 106 | |
| | Total | Total | 303 | 317 | 309 | 320 | 330 | 330 | 20 | 27 | 23 | 24 | 25 | 323 | 344 | 332 | 344 | 355 | |
| | Land & Food Systems | BSAB | 1 | | 88 | 75 | 118 | 139 | 159 | 28 | 41 | 49 | 67 | 84 | 116 | 116 | 167 | 206 | 243 |
| Land & Food Systems | BSAB | 2 | | 35 | 23 | 41 | 47 | 53 | 5 | 5 | 8 | 11 | 14 | 40 | 28 | 49 | 58 | 67 | 74 |
| | BSAB | 3 | | 10 | 5 | 10 | 10 | 11 | 1 | | 3 | 5 | 6 | 11 | 5 | 13 | 15 | 17 | |
| | BSAB | Total | Total | 133 | 103 | 169 | 196 | 223 | 34 | 46 | 60 | 83 | 104 | 167 | 149 | 229 | 279 | 327 | |
| Land & Food Systems | BSFN | 1 | | 161 | 164 | 152 | 141 | 131 | 79 | 92 | 89 | 84 | 80 | 240 | 256 | 241 | 225 | 211 | |
| | BSFN | 2 | | 45 | 64 | 42 | 39 | 35 | 12 | 26 | 12 | 11 | 11 | 57 | 90 | 54 | 50 | 46 | |
| | BSFN | 3 | | 15 | 13 | 14 | 13 | 12 | 1 | 2 | 1 | 1 | 1 | 16 | 15 | 15 | 14 | 13 | |
| Land & Food Systems | BSFN | Total | Total | 221 | 241 | 208 | 193 | 178 | 92 | 120 | 102 | 96 | 92 | 313 | 361 | 310 | 289 | 270 | |
| | BSGR | 2 | | 33 | 19 | 38 | 41 | 43 | 14 | 8 | 17 | 19 | 22 | 47 | 27 | 55 | 60 | 65 | |
| | BSGR | 3 | | 6 | 7 | 6 | 6 | 7 | 1 | 3 | 1 | 1 | 2 | 7 | 10 | 7 | 7 | 9 | |
| Land & Food Systems | BSGR | Total | Total | 39 | 26 | 44 | 47 | 50 | 15 | 11 | 18 | 20 | 24 | 54 | 37 | 62 | 67 | 74 | 74 |
| | Total | Total | 393 | 370 | 421 | 436 | 451 | 451 | 141 | 177 | 180 | 199 | 220 | 534 | 547 | 601 | 635 | 671 | |
| | BCOM | 1 | | 400 | 402 | 433 | 433 | 433 | 267 | 282 | 267 | 267 | 267 | 667 | 684 | 700 | 700 | 700 | |
| Sauder | BCOM | 2 | | 120 | 135 | 100 | 100 | 100 | 80 | 80 | 80 | 80 | 80 | 200 | 215 | 180 | 180 | 180 | |
| | BCOM | 3 | | 52 | 61 | 39 | 39 | 39 | 33 | 37 | 33 | 33 | 33 | 85 | 98 | 72 | 72 | 72 | |
| | Total | Total | 572 | 598 | 572 | 572 | 572 | 572 | 380 | 399 | 380 | 380 | 380 | 952 | 997 | 952 | 952 | 952 | |
| Science | BSC | 1 | | 1,350 | 1,317 | 1,350 | 1,350 | 1,350 | 250 | 279 | 270 | 270 | 270 | 1,600 | 1,596 | 1,620 | 1,620 | 1,620 | |
| | BSC | 2 | | 250 | 278 | 250 | 250 | 250 | 90 | 77 | 85 | 82 | 78 | 340 | 355 | 335 | 332 | 328 | |
| | BSC | 2 | | | | | | | 88 | 81 | 75 | 78 | 82 | 88 | 81 | 75 | 78 | 82 | |
| Science | BSC | 3 | | 20 | 22 | 20 | 20 | 20 | 5 | 3 | 5 | 5 | 5 | 25 | 25 | 25 | 25 | 25 | |
| | Total | Total | 1,620 | 1,617 | 1,620 | 1,620 | 1,620 | 1,620 | 433 | 440 | 435 | 435 | 435 | 2,053 | 2,057 | 2,055 | 2,055 | 2,055 | |
| | Vantage College | VC-BA | 1 | | | | | | 150 | 169 | 170 | 179 | 187 | 150 | 169 | 170 | 179 | 187 | |
| Vantage College | VC-BAS | 1 | | | | | | | 125 | 90 | 85 | 89 | 94 | 125 | 90 | 85 | 89 | 94 | |
| | VC-BMG | 1 | | | | | | | 50 | 37 | 40 | 42 | 44 | 50 | 37 | 40 | 42 | 44 | |
| | VC-BSC | 1 | | | | | | | 125 | 96 | 100 | 105 | 110 | 125 | 96 | 100 | 105 | 110 | |
| Vantage College | Total | Total | 6,503 | 6,530 | 6,533 | 6,579 | 6,604 | 6,604 | 3,133 | 3,427 | 3,266 | 3,315 | 3,361 | 9,636 | 9,957 | 9,799 | 9,894 | 9,965 | |
| | Total | Total | | | | | | | | | | | | | | | | | |

Table 3B: UBCV Winter Session Intake Targets for Other Programs

| Faculty | Degree | Year Pathway Level | Domestic | | | | ISI | | | | Total | | | |
|-----------------|------------------|--------------------|-------------------|-------------------|-----------------------------|---------|-------------------|-------------------|-----------------------------|---------|-------------------|-------------------|-----------------------------|---------|
| | | | Target 2017/18 | Actual 2017/18 | Proposed Targets 2019/20 | 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed Targets 2019/20 | 2020/21 | Target 2017/18 | Actual 2017/18 | Proposed Targets 2019/20 | 2020/21 |
| Applied Science | BEND | 3 | 22 | 23 | 22 | 22 | 22 | 6 | 7 | 8 | 28 | 30 | 30 | 30 |
| Applied Science | Total | Total | 22 | 23 | 22 | 22 | 22 | 6 | 7 | 8 | 28 | 30 | 30 | 30 |
| Arts | BSW | 3 | 55 | 53 | 60 | 60 | | | 1 | | 55 | 54 | 60 | 60 |
| Arts | BSW | Total | 55 | 53 | 60 | 60 | | 1 | | | 55 | 54 | 60 | 60 |
| Arts | Certificates, 99 | | 21 | 21 | 16 | 16 | | | 3 | 3 | 21 | 21 | 19 | 19 |
| Arts | Total | Total | 76 | 74 | 76 | 76 | | 1 | 3 | 3 | 76 | 75 | 79 | 79 |
| Dentistry | BDSC | 1 | 30 | 25 | 26 | 26 | | | | | 30 | 25 | 26 | 26 |
| Dentistry | BDSC | 4 | 10 | 15 | 10 | 10 | | | | | 10 | 15 | 10 | 10 |
| Dentistry | BDSC | Total | 40 | 40 | 36 | 36 | | | | | 40 | 40 | 36 | 36 |
| Dentistry | DMD | 1 | 48 | 56 | 60 | 60 | | | | | 48 | 56 | 60 | 60 |
| Dentistry | DMD | 3 | 7 | | | | | | | | 7 | 0 | 0 | 0 |
| Dentistry | Total | Total | 95 | 96 | 96 | 96 | | | | | 95 | 96 | 96 | 96 |
| Education | BEDS | 1 | 343 | 335 | 364 | 364 | | 5 | 7 | 9 | 348 | 342 | 373 | 373 |
| Education | BEDS | 2 | 5 | | | | | | | | 5 | 0 | 0 | 0 |
| Education | BEDS | 3 | 2 | 9 | | | | 1 | | | 2 | 10 | 0 | 0 |
| Education | BEDS | 4 | | 3 | | | | | | | 0 | 3 | 0 | 0 |
| Education | Total | Total | 350 | 347 | 364 | 364 | | 5 | 8 | 9 | 355 | 355 | 373 | 373 |
| Education | BEEM (incl. f 1 | | 291 | 331 | 340 | 340 | | 4 | 6 | 6 | 295 | 337 | 346 | 346 |
| Education | BEEM (incl. f 2 | | 1 | | | | | | | | 1 | 0 | 0 | 0 |
| Education | BEEM (incl. f 3 | | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 |
| Education | BEEM (incl. f 4 | | 1 | | | | | | | | 1 | 0 | 0 | 0 |
| Education | Total | Total | 294 | 332 | 341 | 341 | | 4 | 6 | 6 | 298 | 338 | 347 | 347 |
| Education | Total | Total | 644 | 679 | 705 | 705 | | 9 | 14 | 15 | 653 | 693 | 720 | 720 |
| Law | JD | 1 | 180 | 183 | 190 | 190 | | 3 | 5 | 3 | 183 | 188 | 193 | 193 |
| Law | JD | 2 | 20 | 14 | 20 | 20 | | | | | 20 | 14 | 20 | 20 |
| Law | Total | Total | 200 | 197 | 210 | 210 | | 3 | 5 | 3 | 203 | 202 | 213 | 213 |
| Medicine | BMLS | 3 | 23 | 10 | 23 | 23 | | 1 | 1 | | 24 | 11 | 23 | 23 |
| Medicine | BMLS | Total | 23 | 10 | 23 | 23 | | 1 | 1 | | 24 | 11 | 23 | 23 |
| Medicine | BMW | 1 | 20 | 21 | 20 | 20 | | | | | 20 | 21 | 20 | 20 |
| Medicine | BMW | Total | 20 | 21 | 20 | 20 | | | | | 20 | 21 | 20 | 20 |
| Medicine | MD | 1 | 283 | 284 | 284 | 284 | | 1 | 1 | | 284 | 285 | 284 | 284 |
| Medicine | MD | 2 | 2 | | | | | | | | 2 | 0 | 0 | 0 |
| Medicine | MD | 3 | 1 | | | | | | | | 0 | 1 | 0 | 0 |
| Medicine | Total | Total | 285 | 285 | 284 | 284 | | 1 | 1 | | 286 | 286 | 284 | 284 |
| Medicine | MDPHD | 1 | | | 4 | 4 | | | | | 0 | 0 | 4 | 4 |
| Medicine | MDPHD | 2 | 1 | 1 | | | | | | | 1 | 1 | 0 | 0 |
| Medicine | MDPHD | Total | 1 | 1 | 4 | 4 | | | | | 1 | 1 | 4 | 4 |
| Medicine | Certificates, 99 | | 17 | 17 | 17 | 17 | | 1 | 1 | 1 | 18 | 18 | 18 | 18 |
| Medicine | Total | Total | 346 | 334 | 348 | 348 | | 3 | 3 | 1 | 349 | 337 | 349 | 349 |

Table 3B: UBCV Winter Session Intake Targets for Other Programs

| Faculty | Degree | Year Level | Pathway | Domestic | | | ISI | | | Total | | |
|-------------------------|--------------|--------------|---------|--------------|--------------|------------------|--------------|------------|------------------|--------------|--------------|------------------|
| | | | | Target | Actual | Proposed Targets | Target | Actual | Proposed Targets | Target | Actual | Proposed Targets |
| | | | | 2017/18 | 2017/18 | 2020/21 | 2017/18 | 2017/18 | 2020/21 | 2017/18 | 2017/18 | 2020/21 |
| Nursing | BSN | 3 | | 117 | 116 | 117 | 117 | 117 | 117 | 117 | 117 | 120 |
| | Total | Total | | 117 | 116 | 117 | 117 | 117 | 117 | 117 | 117 | 120 |
| Pharmaceutical Sciences | PHRMD | 1 | | 224 | 221 | 284 | 284 | 284 | 284 | 224 | 221 | 284 |
| | Total | Total | | 224 | 221 | 284 | 284 | 284 | 284 | 224 | 221 | 284 |
| Pharmaceutical Sciences | Total | Total | | 224 | 221 | 284 | 284 | 284 | 284 | 224 | 221 | 284 |
| Sauder | BBRE | 2 | | 2 | | 2 | 2 | | | 2 | 0 | 2 |
| Sauder | BBRE | 3 | | 1 | | 1 | 1 | | | 1 | 0 | 1 |
| | Total | Total | | 3 | | 3 | 3 | | | 3 | 0 | 3 |
| Science | BCS | 3 | | 90 | 78 | 90 | 90 | 90 | 90 | 95 | 85 | 95 |
| | Total | Total | | 90 | 78 | 90 | 90 | 90 | 90 | 95 | 85 | 95 |
| No Faculty | ACES | 99 | | 84 | 96 | 46 | 46 | | | 93 | 105 | 63 |
| No Faculty | EXCH | 99 | | 1,013 | 1,022 | 999 | 999 | | | 1,013 | 1,022 | 999 |
| No Faculty | TRAN | 99 | | 19 | 19 | | | | | 19 | 19 | 0 |
| No Faculty | UNCL | 99 | | 534 | 548 | 507 | 507 | | | 560 | 576 | 540 |
| No Faculty | VISI | 99 | | 142 | 156 | 143 | 143 | | | 300 | 334 | 315 |
| | Total | Total | | 1,792 | 1,841 | 1,695 | 1,695 | 193 | 222 | 1,985 | 2,056 | 1,917 |
| Grand Total | Total | Total | | 3,609 | 3,659 | 3,646 | 3,646 | 219 | 260 | 3,828 | 3,912 | 3,906 |

Table 4A: UBCV Winter Session Undergraduate Headcount Forecast

| Program Type | Domestic/ISI | Faculty | Actual | | 2018/19 | | 2019/20 | | Projected | | 2021/22 | | 2022/23 | |
|--------------|--------------|---------------------|---------|---------|---------|--------|---------|--------|-----------|--------|---------|--------|---------|--------|
| | | | 2016/17 | 2017/18 | Winter | Winter | Winter | Winter | Winter | Winter | Winter | Winter | Winter | Winter |
| Direct Entry | Domestic | Applied Science | 3,491 | 3,434 | | 3,441 | 3,464 | 3,508 | 3,572 | 3,622 | | | | |
| Direct Entry | Domestic | Arts | 9,747 | 9,755 | | 9,624 | 9,485 | 9,374 | 9,292 | 9,249 | | | | |
| Direct Entry | Domestic | Dentistry | 146 | 151 | | 140 | 136 | 135 | 136 | 136 | | | | |
| Direct Entry | Domestic | Education | 1,152 | 1,137 | | 1,143 | 1,146 | 1,149 | 1,168 | 1,194 | | | | |
| Direct Entry | Domestic | Forestry | 655 | 667 | | 668 | 685 | 696 | 701 | 703 | | | | |
| Direct Entry | Domestic | Land & Food Systems | 1,175 | 1,136 | | 1,195 | 1,241 | 1,274 | 1,292 | 1,324 | | | | |
| Direct Entry | Domestic | Sauder | 2,299 | 2,354 | | 2,349 | 2,340 | 2,325 | 2,330 | 2,334 | | | | |
| Direct Entry | Domestic | Science | 6,546 | 6,556 | | 6,550 | 6,495 | 6,408 | 6,368 | 6,354 | | | | |
| Direct Entry | Domestic | Total | 25,211 | 25,190 | | 25,109 | 24,992 | 24,871 | 24,859 | 24,915 | | | | |
| Direct Entry | ISI | Applied Science | 1,034 | 1,233 | | 1,339 | 1,415 | 1,476 | 1,523 | 1,551 | | | | |
| Direct Entry | ISI | Arts | 3,564 | 4,125 | | 4,334 | 4,403 | 4,419 | 4,427 | 4,429 | | | | |
| Direct Entry | ISI | Dentistry | 3 | 2 | | 2 | 2 | 2 | 2 | 2 | | | | |
| Direct Entry | ISI | Education | 95 | 106 | | 106 | 104 | 99 | 96 | 98 | | | | |
| Direct Entry | ISI | Forestry | 356 | 458 | | 521 | 556 | 570 | 575 | 576 | | | | |
| Direct Entry | ISI | Land & Food Systems | 314 | 403 | | 451 | 495 | 535 | 566 | 602 | | | | |
| Direct Entry | ISI | Sauder | 1,440 | 1,449 | | 1,445 | 1,442 | 1,432 | 1,418 | 1,412 | | | | |
| Direct Entry | ISI | Science | 1,305 | 1,503 | | 1,650 | 1,674 | 1,663 | 1,674 | 1,686 | | | | |
| Direct Entry | ISI | Vantage College | 363 | 392 | | 395 | 415 | 435 | 457 | 457 | | | | |
| Direct Entry | ISI | Total | 8,474 | 9,671 | | 10,243 | 10,507 | 10,631 | 10,739 | 10,814 | | | | |
| Direct Entry | Total | Total | 33,685 | 34,861 | | 35,352 | 35,498 | 35,502 | 35,598 | 35,729 | | | | |

Table 4A: UBCV Winter Session Undergraduate Headcount Forecast

| Program Type | Domestic/ISI | Faculty | Actual | | Projected | | Projected | | Projected | |
|----------------|--------------|-------------------------|---------|---------|-----------|---------|-----------|---------|-----------|--|
| | | | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | |
| | | | Winter | Winter | Winter | Winter | Winter | Winter | Winter | |
| Other Programs | Domestic | Applied Science | 287 | 280 | 276 | 274 | 273 | 273 | 273 | |
| Other Programs | Domestic | Arts | 139 | 137 | 151 | 168 | 175 | 179 | 181 | |
| Other Programs | Domestic | Dentistry | 215 | 217 | 221 | 233 | 232 | 237 | 237 | |
| Other Programs | Domestic | Education | 1,267 | 1,354 | 1,374 | 1,387 | 1,392 | 1,404 | 1,413 | |
| Other Programs | Domestic | Land & Food Systems | 81 | 85 | 93 | 111 | 134 | 147 | 157 | |
| Other Programs | Domestic | Law | 553 | 561 | 576 | 595 | 597 | 597 | 597 | |
| Other Programs | Domestic | Medicine | 1,278 | 1,303 | 1,304 | 1,314 | 1,312 | 1,308 | 1,308 | |
| Other Programs | Domestic | Pharmaceutical Sciences | 874 | 880 | 934 | 999 | 1,053 | 1,112 | 1,117 | |
| Other Programs | Domestic | Sauder | 1,696 | 1,671 | 1,388 | 1,309 | 1,276 | 1,263 | 1,257 | |
| Other Programs | Domestic | Science | 276 | 259 | 262 | 267 | 271 | 272 | 273 | |
| Other Programs | Domestic | No Faculty | 2,269 | 2,282 | 2,282 | 2,282 | 2,282 | 2,282 | 2,282 | |
| Other Programs | Domestic | Total | 8,935 | 9,029 | 8,861 | 8,939 | 8,999 | 9,074 | 9,095 | |
| Other Programs | ISI | Applied Science | 18 | 17 | 17 | 17 | 17 | 17 | 17 | |
| Other Programs | ISI | Arts | 5 | 4 | 4 | 5 | 5 | 5 | 5 | |
| Other Programs | ISI | Education | 26 | 31 | 34 | 36 | 36 | 37 | 37 | |
| Other Programs | ISI | Land & Food Systems | 35 | 40 | 46 | 49 | 62 | 72 | 82 | |
| Other Programs | ISI | Law | 14 | 15 | 15 | 15 | 15 | 15 | 15 | |
| Other Programs | ISI | Sauder | 141 | 147 | 147 | 160 | 162 | 163 | 163 | |
| Other Programs | ISI | Science | 31 | 26 | 24 | 22 | 21 | 20 | 20 | |
| Other Programs | ISI | No Faculty | 249 | 227 | 227 | 227 | 227 | 227 | 227 | |
| Other Programs | ISI | Total | 519 | 507 | 513 | 532 | 546 | 556 | 566 | |
| Other Programs | Total | Total | 9,454 | 9,536 | 9,374 | 9,471 | 9,545 | 9,630 | 9,661 | |
| Grand Total | Total | Total | 43,139 | 44,397 | 44,726 | 44,969 | 45,047 | 45,227 | 45,390 | |

Table 4B: UBCV Winter Session Undergraduate Headcount, ISI as a Percent of Faculty

| Program Type | Domestic /ISI | Faculty | Actual | | Projected | | | | | |
|----------------|---------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| | | | 2016/17 Winter | 2017/18 Winter | 2018/19 Winter | 2019/20 Winter | 2020/21 Winter | 2021/22 Winter | 2022/23 Winter | |
| Direct Entry | ISI | Applied Science | 23% | 26% | 28% | 29% | 30% | 30% | 30% | |
| Direct Entry | ISI | Arts | 27% | 30% | 31% | 32% | 32% | 32% | 32% | |
| Direct Entry | ISI | Dentistry | 2% | 1% | 1% | 2% | 2% | 2% | 2% | |
| Direct Entry | ISI | Education | 8% | 9% | 9% | 8% | 8% | 8% | 8% | |
| Direct Entry | ISI | Forestry | 35% | 41% | 44% | 45% | 45% | 45% | 45% | |
| Direct Entry | ISI | Land & Food Systems | 21% | 26% | 27% | 29% | 30% | 31% | 31% | |
| Direct Entry | ISI | Sauder | 39% | 38% | 38% | 38% | 38% | 38% | 38% | |
| Direct Entry | ISI | Science | 17% | 19% | 20% | 21% | 21% | 21% | 21% | |
| Direct Entry | ISI | Vantage College | 100% | 100% | 100% | 100% | 100% | 100% | 100% | |
| Direct Entry | ISI | Total | 25% | 28% | 29% | 30% | 30% | 30% | 30% | |
| Other Programs | ISI | Applied Science | 6% | 6% | 6% | 6% | 6% | 6% | 6% | |
| Other Programs | ISI | Arts | 4% | 3% | 3% | 3% | 3% | 3% | 3% | |
| Other Programs | ISI | Education | 2% | 2% | 2% | 3% | 3% | 3% | 3% | |
| Other Programs | ISI | Land & Food Systems | 30% | 32% | 33% | 31% | 32% | 33% | 34% | |
| Other Programs | ISI | Law | 3% | 3% | 3% | 3% | 2% | 2% | 2% | |
| Other Programs | ISI | Sauder | 8% | 8% | 10% | 11% | 11% | 11% | 12% | |
| Other Programs | ISI | Science | 10% | 9% | 8% | 8% | 7% | 7% | 7% | |
| Other Programs | ISI | No Faculty | 10% | 9% | 9% | 9% | 9% | 9% | 9% | |
| Other Programs | ISI | Total | 6% | 5% | 6% | 6% | 6% | 6% | 6% | |
| Grand Total | ISI | ISI | 20% | 22% | 23% | 24% | 24% | 24% | 24% | |



16 February 2018

To: Vancouver Senate

From: Admissions Committee

Re: j) New Approach to Holistic Undergraduate Admissions – Calendar Changes on Admission (approval)

j) New Approach to Holistic Undergraduate Admissions – Calendar Changes on Admission (approval)

In October 2017, Senate approved a new model of undergraduate admissions. The Committee now recommends for approval the associated changes to the Admissions chapter of the Academic Calendar. The attached proposal is specific to the general Calendar chapter on 'Admissions.' There may be minor changes to faculty-specific sections of the Calendar, which will be considered by the Committee in the coming weeks.

Since Senate approval of the new admissions model, Undergraduate Admissions and faculties have reviewed general and program-specific admission requirements, the latter of which have remained consistent with program-specific admission requirements under the current admission process. The Committee recommends one minor change in program-specific admission requirements; the removal of Biology 11 as a requirement for admission to the Bachelor of Science in Applied Biology and Bachelor of Science in Food, Nutrition and Health programs.

The Committee has also reviewed and recommends to Senate for approval a minor revision to International Baccalaureate (IB) equivalencies. Undergraduate Admissions had conducted analysis to better ascertain the predicted performance of students who complete Higher Level (HL) IB courses versus Standard Level (SL) IB courses. The revised table, as outlined in the Calendar section on "Applicants with International Baccalaureate and Advanced Placement Courses," outlines the IB course grade and the associated percentage that will be used in the calculation of an admission average.

In light of the new admissions model, current Senate policies will need to be revised or rescinded. Specifically, *Policy J-51: Admission Based on Interim Grades for Applicants following Canadian Extra-Provincial Curricula* and *Policy J-52.2 Admission for Secondary School Applicants following the BC/Yukon Curriculum* will not be applicable for entry to the 2019 Winter Session and thereafter, and should be rescinded. *Policy J-53: Course-specific Minima for Secondary School Applicants* will need to be revised.

The Committee recommends the following motions for approval:

Motion: That Senate approve proposed changes in admission requirements for applicants to the Bachelor of Science in Applied Biology and the Bachelor of Science in Food, Nutrition and Health programs, effective for the 2019 Winter Session and thereafter; and



Motion: That Senate approve changes in admission requirements for applicants presenting International Baccalaureate and Advanced Placement courses , effective for the 2019 Winter Session and thereafter; and

Motion: that Senate approve proposed amendments to admission requirements and the UBC Academic Calendar, as circulated; and

Motion: that Senate direct the Committee to report back with changes to Policy J-51: Admission Based on Interim Grades for Applicants following Canadian Extra-Provincial Curricula, Policy J-52.2 Admission for Secondary School Applicants following the BC/Yukon Curriculum, and Policy J-53: Course-specific Minima for Secondary School Applicants no later than the 16 May 2018 Senate meeting.

Respectfully submitted,

Prof. Carol Jaeger, Chair
Senate Admissions Committee

UBC Admissions Proposal Form

| | |
|--|--|
| Department: Undergraduate Admissions Faculty Approval Date: Effective Session: Year for Change: | Date: Contact Person: Phone: Email: |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,284,0,0 Proposed Calendar Entry: Homepage → Admissions → UBC Admissions Student Declaration Proposed Calendar Entry: <i>UBC Admissions Student Declaration</i> ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,284,0,0 Present Calendar Entry: Homepage → Admissions → UBC Admissions Student Declaration Present Calendar Entry: <i>UBC Admissions Student Declaration</i> ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,302,0,0 Homepage → Admissions → Graduate Admission Procedures Proposed Calendar Entry: <i>Graduate Admission Procedures</i> ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,302,0,0 Homepage → Admissions → Graduate Admission Procedures Present Calendar Entry: <i>Graduate Admission Procedures</i> ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,27,0,0 Homepage → Admissions → Undergraduate Admission Procedures Proposed Calendar Entry: <i>Undergraduate Admission</i> | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,27,0,0 Homepage → Admissions → Undergraduate Admission Procedures Present Calendar Entry: <i>Undergraduate Admission</i> |



| | |
|---|--|
| <p>Procedures</p> <p>...</p> <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,295,0,0</p> <p>Homepage → Admissions → Application and Document Deadlines</p> <p>Proposed Calendar Entry:</p> <p>Application and Document Deadlines</p> <p>...</p> | <p>Procedures</p> <p>...</p> <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,295,0,0</p> <p>Homepage → Admissions → Application and Document Deadlines</p> <p>Present Calendar Entry:</p> <p>Application and Document Deadlines</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,13,0,0</p> <p>Homepage → Admissions → Policy on Admissions</p> <p>Proposed Calendar Entry:</p> <p>Policy on Admissions</p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,13,0,0</p> <p>Homepage → Admissions → Policy on Admissions</p> <p>Present Calendar Entry:</p> <p>Policy on Admissions</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,32,0,0</p> <p>Homepage → Admissions → Classification of Students</p> <p>Proposed Calendar Entry:</p> <p>Classification of Students</p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,32,0,0</p> <p>Homepage → Admissions → Classification of Students</p> <p>Present Calendar Entry:</p> <p>Classification of Students</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,19,0,0</p> <p>Homepage → Admissions → English Language Admission Standard</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,19,0,0</p> <p>Homepage → Admissions → English Language Admission Standard</p> <p>Present Calendar Entry:</p> |



THE UNIVERSITY OF BRITISH COLUMBIA

Proposed Calendar Entry:

English Language Admission Standard

Contents

English Language Competence→
English Language Proficiency Tests→
Waiver of English Language Admission Standard→
Language Proficiency Index (LPI)
Requirement to Enrol in a First-Year English Course→
Conditional Admission Program→
...

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,300,0,0>

Proposed Calendar Entry:

[Homepage](#)→ [Admissions](#) → Changes to Undergraduate Admissions for Secondary School Applicants in 2019

Starting in the 2019 admission cycle, The University of British Columbia will introduce a new, holistic approach to assessing secondary school students applying for undergraduate admission. Moving forward, the entirety of the applicant's secondary school transcript, including all courses taken at the Grade 11 and Grade 12 levels, will be considered in the undergraduate admission decision. UBC will look at grades in all academic courses with particular attention to those in subject areas that are relevant to the applicant's intended area of study at UBC.

Where possible, UBC may also consider the number of Grade 11 and 12 courses presented in order to recognize students who challenge themselves with a heavier

English Language Admission Standard

Contents

English Language Competence→
English Language Proficiency Tests→
Waiver of English Language Admission Standard→
Language Proficiency Index (LPI)
Requirement to Enrol in a First-Year English Course→
Conditional Admission Program→
...

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,300,0,0>

Present Calendar Entry:

[Homepage](#)→[Admissions](#)→~~Minimum Academic Standard for Secondary School Applicants~~

~~Minimum Academic Standard for Secondary School Applicants~~

~~A minimum admission average of 70% or equivalent on a 50% pass scale is required for consideration to all undergraduate programs.~~

~~Due to receipt of many more qualified applicants than there are spaces available in most programs, a higher average is often required.~~



course load. Similarly, the admission decision may also consider rigour of coursework in order to better recognize students who have challenged themselves with coursework that includes more advanced or post-secondary level content.

UBC encourages students to actively explore their academic interests in secondary school. As a result, the admission evaluation will omit a course with the student's lowest academic course grade if it is in an area that is unrelated to their intended area of study at UBC. Similarly, there may be some non-academic courses (where grades are not used) that speak to the student's intended area of study at the university that are looked upon favourably in the admission process.

The courses required for admission (i.e. the pre-requisites) to undergraduate programs have not changed from previous years. Students who present the minimum requirements for admission (as described in the table outlining "Program Requirements for Canadian Secondary School Applicants" [[hotlink to table](#)]) will be eligible for consideration.

Admission to The University of British Columbia is competitive and satisfying the minimum requirements does not guarantee admission. In addition to presenting the necessary pre-requisite courses, an applicant's admission decision will be based upon the following principles:

1. To what extent has the applicant excelled in secondary school, as evidenced by their grades?
2. To what extent has the applicant challenged themselves in secondary school, as evidenced by

the number and academic rigour of courses completed?

3. To what extent has the applicant taken courses in subjects that are relevant to their intended area of study at the university?

Taken in conjunction with the UBC personal profile, the UBC undergraduate admission decision approach rests on a holistic assessment of the applicant, placing value on all learning in secondary school.

URL: new URL following “[Homepage](#) → [Admissions](#) → Changes to Undergraduate Admissions for Secondary School Applicants in 2019”

[Homepage](#) → Admissions → Admission for Secondary School Applicants

Admission Requirements

Academic criteria are the primary basis for determining admissibility to UBC. Many programs also consider non-academic information. For secondary school applicants, the academic assessment consists of an overall assessment and a core academic assessment, the latter being specific to the program(s) to which the student has applied. In addition, breadth, rigour and relevancy of secondary school coursework may also factor into the admission decision.

Although there is not a strict minimum number of course required, UBC does recommend that students graduating with a Canadian secondary school credential present at least six academic and non-academic Grade 12-level courses



(including Grade 12-level courses taken in the Grade 11 year). Non-academic courses include subjects classified as Applied Design, Skills and Technologies, Career Education, Physical and Health Education, or Faith-based. For applicants from outside of Canada, the minimum number of senior-year courses will vary by jurisdiction. Students with fewer than the recommended number of Grade 12-level courses will be considered on a case-by-case basis.

Academic averages for the purpose of admission are based on final or in-progress Grade 11 and Grade 12 (or equivalent) course grades available in the spring. The minimum academic qualification for admission is secondary school graduation from a recognized secondary school.

The Overall Academic Assessment (All Programs)

The overall academic assessment is designed to broadly assess an applicant's academic history. The assessment is the same regardless of the program to which the student has applied and focuses on the marks presented in all academic Grade 11 and 12 coursework (regardless of the year in which the course was completed). Wherever possible, UBC will exclude the academic course with the applicant's lowest grade so long as the course is not required or relevant to the intended area of study at UBC.

The Core Academic Assessment (Program-Specific)

The core academic assessment is designed to assess an applicant's aptitude for a particular area of study within the university. The core academic assessment will vary depending upon the



program to which the student has applied (see table outlining “Program Requirements for Canadian Secondary School Applicants” [\[hotlink to table\]](#)). The assessment focuses on the grades presented in all relevant academic Grade 11 and 12 (or equivalent) coursework, although in cases where the student presents a course at both the Grade 11 and the Grade 12 level, emphasis is placed upon the mark obtained in the more senior-level course. There is not a minimum number of courses required for admission, but applicants are encouraged to challenge themselves with a substantial number of courses that are relevant to their intended area of study at UBC. Certain programs may require a competitive minimum grade in individual prerequisite courses used in the core academic assessment.

Additional Considerations

In addition to the marks presented in the academic Grade 11 and Grade 12 (or equivalent) coursework noted above, both the overall and the core assessments may be influenced by a number of factors. While none of the following are required to gain admission to UBC, where it is potentially to the student’s advantage, the following may receive additional consideration:

- **Breadth of coursework:** Students are encouraged to pursue all their academic interests in secondary school. Students who evidence doing so by pursuing a heavier course load may be advantaged in the admissions process. This may also be evidenced by students who present dual high-school diplomas through a second language immersion program.
- **Rigour of coursework:** Students

| | |
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| <p>are encouraged to challenge themselves in secondary school. Students who evidence doing so by presenting more academic courses, including those that contain rigorous/first-year university content may be advantaged in the admissions process. This includes courses such as Advanced Placement, International Baccalaureate, Calculus, or Dual-Credit.</p> <ul style="list-style-type: none"> • Relevancy of coursework: Students are encouraged to pursue additional courses that are relevant to their intended area of study at UBC, even if the course marks are not used in the calculation of the admission average. Students who evidence doing so may be advantaged in the admissions process. Examples include: applicants to the Faculty of Applied Science who present applied courses in electronics or robotics; applicants to the Faculty of Commerce and Business Administration who present applied courses in accounting or marketing. The relevancy of a particular course will be determined as part of the admissions process. • Personal Circumstance: In some cases, it may not be possible for students to demonstrate breadth, rigour, and/or additional relevant courses. For example: an applicant may attend a school in a smaller community that does not offer a wide selection of courses; an applicant may take a smaller course load in secondary school to attend to family commitments (e.g. caring for younger sibling) or other personal circumstances (e.g. | |
|---|--|

working a part time job to fund their education). Applicants will be invited to include this type of information with their application and such situations will be considered on a case-by-case basis within the undergraduate admissions process.

As a general rule, grades received as a result of challenging a course may not be used in the calculation of an admission average. However, students may use challenged courses to satisfy program prerequisites such as the requirement for an approved Language 11 and/or the [language degree requirement in the Faculty of Arts](#).

If there are circumstances where an applicant must present a challenge-based mark for a required Grade 12 mathematics, science, or English course, or where a strong academic student wishes to challenge a UBC-required Grade 12 course in order to take a more advanced course load in high school, please contact [UBC Admissions](#) for consideration on a case-by-case basis.

A minimum final grade of 70% in either English 11 or English 12 (or equivalent), including provincial examination, is required for all programs. A minimum overall admission average of 70% or equivalent on a 50% pass scale is required for consideration to all undergraduate programs. Due to receipt of many more qualified applicants than there are spaces available in most programs, a higher average is often required.

Applicants who, because of administrative difficulties in their school or because they have a physical, sensory,



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or specific learning disability, cannot present the courses as required, may be excused a specific admissions course requirement. Supporting documentation sent by the principal of the school concerned is required.

All courses must be completed by June. Summer school courses or grades obtained in supplemental examinations will not be considered.

All offers of admission are subject to satisfactory completion of secondary school graduation requirements, completion of all required courses, and maintenance of minimum university admission standards. Offers of admission may be withdrawn from students who do not satisfy these requirements.

The Personal Profile

In order to assess a student's preparedness and potential for university study, UBC will evaluate applicants on a broad range of criteria including academic performance, as well as personal experiences and achievements. The UBC personal profile consists of short answer questions where applicants are encouraged to share significant achievements, as well as what they have learned from their experiences and the challenges that they have overcome.

URL: new URL following "[Homepage](#) → [Admissions](#) → Changes to Undergraduate Admissions for Secondary School Applicants in 2019"

[Homepage](#) → [Admissions](#) → Program Requirements for Canadian Secondary School Applicants

| Program | Minimum Requirements: | Overall Assessment based upon grades in the following courses |
|---------|-----------------------|---|
|---------|-----------------------|---|



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| All | Recommendation: A minimum of six Grade 12 courses are recommended. Approved equivalent International Baccalaureate, Advanced Placement, or Post-secondary course may also be used. | All Grade 11 and Grade 12 courses ¹ . |
|--|---|---|
| Program | Minimum Pre-Requisite Courses | Core Program-Specific Assessment based upon Grade 11 and Grade 12 course grades ¹ from the following subject categories: |
| Arts | English 12 or English 12 First Peoples Pre-Calculus 11 or Foundations of Math 12 ² (Students intending to major in Economics must complete Pre-Calculus 12) A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Mathematics & Computation Second Languages Social Studies Visual and Performing Arts |
| Commerce | English 12 or English 12 First Peoples Pre-Calculus 12 A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Mathematics & Computation ⁵ Social Studies ⁶ |
| Dental Hygiene | English 12 or English 12 First Peoples Pre-Calculus 12 A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Sciences |
| Design in Architecture, Landscape Architecture & Urbanism | English 12 or English 12 First Peoples Geography 12 or History 12 Pre-Calculus 11 or Foundations of Math 12 ² A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Visual and Performing Arts Social Studies |
| Engineering | English 12 or English 12 First Peoples Pre-Calculus 12 Chemistry 12 ⁷ Physics 12 ⁷ A language 11 ³ or waiver | Language Arts Sciences Mathematics & Computation |
| Fine Arts; | English 12 or English 12 First Peoples Pre-Calculus 11 or Foundations of Math 12 ² A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Visual and Performing Arts Social Studies |
| Forestry (BSF, BSFS, BSCN, BSCW, BUF) | English 12 or English 12 First Peoples Pre-Calculus 12 One of Biology 12, Chemistry 12, or Physics 12 Biology 11 or Physics 11 Chemistry 11 A language 11 ³ or waiver | Language Arts Sciences Mathematics & Computation |
| International Economics | English 12 or English 12 First Peoples Pre-Calculus 12 A language 11 ³ or waiver An approved Grade 11 scienc | Language Arts Mathematics & Computation ⁵ Social Studies ⁷ |



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| | | |
|---|--|--|
| Kinesiology | English 12 or English 12 First Peoples One of Biology 12, Chemistry 12, Physics 12, or Pre-Calculus 12 Pre-Calculus 11 or Foundations of Math 12 ² An approved Grade 11 science ⁴ A language 11 ³ or waiver | Language Arts Sciences Mathematics & Computation Social Studies |
| Land and Food Systems (BSAB; BSFN) | English 12 or English 12 First Peoples Pre-Calculus 12 One of Biology 12, Chemistry 12, or Physics 12 Chemistry 11 or Biology 11 Physics 11 A language 11 ³ or waiver | Language Arts Sciences Mathematics & Computation Social Studies |
| Media Studies | English 12 or English 12 First Peoples One of Geography 12, History 12, or English Literature 12 Pre-Calculus 11 or Foundations of Math 12 ² A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Social Studies Mathematics & Computation Visual and Performing Arts |
| Music | English 12 or English 12 First Peoples Pre-Calculus 11 or Foundations of Math 12 ² A language 11 ³ or waiver An approved Grade 11 science ⁴ | Language Arts Visual and Performing Arts Second Languages |
| Science | English 12 or English 12 First Peoples Pre-Calculus 12 One of Biology 12, Chemistry 12, or Physics 12 Chemistry 11 Physics 11 A language 11 ³ or waiver | Language Arts Sciences Mathematics & Computation |

Notes:

¹ Does not include any courses classified as Applied Design, Skills, and Technologies, Career Education, faith-based or Physical and Health Education.

² BC/YT students only.

³ BC/YT students only. A beginner's Language 11 does not satisfy this requirement. Applicants may present any International Baccalaureate (IB) Ab Initio Language in place of Language 11.

⁴ BC/YT students only; Applied Physics 11 and 12 (together these courses meet both the Grade 11 Science requirement and the Physics 11 requirement), Biology 11, Chemistry 11, Earth Science 11, Environmental Sciences 11, Life Sciences 11, or Physics 11.

⁵ The Sauder School of Business and the Bachelor of International Economics will also consider Physics and Chemistry courses as part of the Math & Computation category. These subjects provide a good background in quantitative analysis that is relevant to the study of Commerce and Economics.

⁶ The Sauder School of Business and the Bachelor of International Economics will only place an emphasis on Social Studies classes in the following subjects: Economics; Ethics; First Nations or Contemporary Indigenous Studies; Geography; Law; Psychology.

⁷ Outstanding candidates missing Chemistry 12 [or equivalent] or Physics 12 [or equivalent] are encouraged to apply and will be reviewed on a case-by-case basis.

The following presents categories of courses (by subject area) where course grades may be used in the overall or core academic assessments. Courses are typically presented at the Grade 11 or 12 level, although approved equivalent International Baccalaureate, Advanced Placement, or Post-secondary courses may also be used. Subject areas below are presented as examples and do not constitute a comprehensive list of courses that may be considered in a particular category.

Language Arts category

Includes courses that focus on language and literacy. Examples of subject areas include (but not limited to): English; English First Peoples; English/French Literature; Creative Writing.

Mathematics & Computation category

Includes courses that focus on numeracy, numerical methods, and symbolic computation. Examples of subject areas include (but not limited to): Mathematics¹; Pre-Calculus; Calculus²; Computer Science³; Statistics.

Visual and Performing Arts category

Includes courses focused upon artistic expression. Examples of subject areas include (but not limited to): Drama; Music; Media Arts.

Sciences category

Includes courses that help us better understand our natural world. Examples of subject areas include (but not limited to): Biology; Chemistry; Earth Science; Physics; Geology.

Second Languages category

Includes all second language courses, excluding Introductory Language 11 courses. Examples of subject areas include (but not limited to): French; Spanish; Japanese.

Social Studies category

Includes courses that focus on individuals, human society and culture. Examples of subject areas include (but not limited to): Comparative World Religions; Contemporary Indigenous Studies; Economics, Ethics, Geography, History; Law Studies, Media Studies; Philosophy, Political Science; Psychology; Social Justice.

Notes: ¹Applied mathematics courses, such as Foundations of Math, History of Math, or Workplace Math are not included in the assessment for any UBC program that has Pre-Calculus 12 as a pre-requisite for admission. ²While secondary school Calculus is not required for admission, the course is recognized to be rigorous and is recommended for students entering programs at UBC that require first-year Math. ³Does not include applied courses in Information and Communications Technology.

For additional information for Canadian Secondary School applicants, please see the following sections specific to different provincial jurisdictions and curricula.

URL: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,0,0>, following “Homepage→Admissions→ Program Requirements for Canadian Secondary School Applicants”

[Homepage](#) → [Admissions](#) → Applicants Following the BC/Yukon Secondary School Curriculum

Proposed Calendar Entry:

Contents

[Admission Requirements](#) - Minimum Academic Qualifications

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British Columbia Adult Graduation Diploma (BCAGD)

Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum **Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum**

URL: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,63,0>

[Homepage](#) → [Admissions](#) → Applicants Following the BC/Yukon Secondary School Curriculum → **Minimum Academic Qualifications**

Proposed Calendar Entry:

***Admission Requirements* Minimum Academic Qualifications**

~~Academic criteria are the primary basis for determining admissibility to UBC's Vancouver campus; however, many programs consider non-academic information as well. Academic averages for the purpose of admission to UBC's Vancouver campus are primarily based on Grade 12 final or in-progress course grades available in the spring; however, an applicant's full academic history (including grades for completed Grade 11 courses) may be considered, particularly where sufficient Grade 12 information is not yet available.~~

The minimum academic qualification for admission is secondary school graduation from a recognized secondary school, including the following Grade 11 and 12 courses:

| Grade | Required Courses ¹ |
|----------|--|
| Grade 12 | English 12 or English 12 First Peoples ¹ Three additional approved Grade 12 courses ¹ |
| Grade 11 | English 11 or English 11 First Peoples Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Civic Studies 11, Social Studies 11, or BC First Nations Studies 12 Any course which satisfies the Social Studies 11 BC/YT graduation requirement At least one approved Science 11 ² An approved Language 11 ³ |

¹ Or approved equivalent International Baccalaureate, Advanced Placement, or Post-secondary course. See the table [Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum](#) and the sections titled [Advanced Placement and International Baccalaureate Courses Approved to Satisfy Pre-requisites](#) and [Post-Secondary Course Credits that Count Toward High School Graduation](#).

² See the table [Specific Program Requirements for Applicants following the BC/Yukon Secondary School Curriculum](#) for programs requiring two Science courses at the Grade 11 level. Applied Physics 11 and 12 (together these courses meet both the Grade 11 Science requirement and the Physics 11 requirement), Biology 11, Chemistry 11, Earth Science 11, Environmental Sciences 11, Life Sciences 11, or Physics 11

³ A beginner's Language 11 does not satisfy this requirement. Applicants may present any International Baccalaureate (IB) Ab Initio Language in place of Language 11

The admission average will be calculated on English 12, or English 12 First Peoples, and the three additional approved Grade 12 courses. Certain programs may require a competitive minimum grade in individual prerequisite courses used in the calculation of the admission average. Should final or in-progress Grade 12 grades not be available at the time of evaluation, final Grade 11 grades may be used as appropriate.

As a general rule, grades received as a result of challenging a course may not be used in the calculation of an admission average. However, students may use challenged courses to satisfy program prerequisites such as the requirement for an approved Language 11 and/or the [language degree requirement in the Faculty of Arts](#).

If there are circumstances where an applicant must present a challenge-based mark for a required Grade 12 mathematics, science, or English course, or where a strong academic student wishes to challenge a UBC required Grade 12 course in order to take a more advanced courseload in high school, please contact [UBC Admissions](#) for consideration on a case-by-case basis.

Applicants must present an admission average that meets or exceeds the [minimum academic standard for secondary school applicants](#).

A minimum final grade of 70% in either English 11 or English 12 (or equivalent), including provincial examination, is required for all programs.

Applicants who, because of administrative difficulties in their school or because they have a physical, sensory, or specific learning disability, cannot present the courses as required, may be excused a specific admissions course requirement. Supporting documentation sent by the principal of the school concerned is required.

All courses must be completed by June. Summer school courses or grades obtained in supplemental examinations will not be considered.

Approved courses offered in French will also be accepted. (Français 12 is not accepted in place of English 12.)

For BC/YT students graduating in 2018 and 2019: Applicants are required to write the final examinations offered by the BC Ministry of Education (BC Provincial Examinations) that are required for graduation. For admission decisions, BC Provincial Examination results will be used if the examination result increases the applicant's admission average. However, in cases where a significant discrepancy exists between the course grade and the examination grade, UBC reserves the right to use the examination grade only.

For BC/YT students graduating in 2020: Applicants are required to provide a completed Literacy Assessment (part of the Ministry of Education graduation program) before UBC can make an offer of admission.

Applicants are required to write the final examinations offered by the BC Ministry of Education (BC Provincial Examinations) that are required for graduation. For admission decisions, BC



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Provincial Examination results will be used if the examination result increases the applicant's admission average. However, in cases where a significant discrepancy exists between the course grade and the examination grade, UBC reserves the right to use the examination grade only.

Approved Grade 12 Courses²

American Sign Language (ASL)
 BC First Nations Studies 12
 Biology 12
 Calculus 12⁺
 Chemistry 12
 Economics 12⁺
 English Literature 12
 English 12 or English 12 First Peoples
 Français Langue 12 or French 12
 Geography 12
 Geology 12
 German 12
 Halq'eméylem 12⁺
 Heiltsuk 12⁺
 History 12
 Hul'q'umi'num' 12⁺
 Japanese 12
 Kwak'waka 12⁺
 Law 12⁺
 Liqwala/Kwak'waka 12⁺
 Mandarin 12
 nsíylx̱een 12⁺
 Nteʔkepmxc̱in 12⁺
 Nuucẖaṉ ṉulth 12⁺
 Principles of Mathematics 12 or Pre-Calculus 12
 Physics 12
 Punjabi 12
 Secwepemetsin (Shuswap Language) 12⁺
 Shashishalhem (Sechelt Language) 12⁺
 Sim'algax̱ẖl Nisga'a 12⁺
 Sm'algyax 12⁺
 Spanish 12
 Tsek'ene 12⁺
 Upper St'at'imcets 12⁺



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¹ ~~Eligible for inclusion in admission averages for students applying to enter UBC in 2012 and beyond.~~

² ~~Technological limitations prevent UBC from appropriately reflecting some languages in the Calendar. We are working to address this for the future.~~

Approved Grade 11 Science Courses

Applied Physics 11 and 12¹

Biology

Chemistry

Earth Science

Physics

¹ ~~Together these courses meet both the Grade 11 Science requirement and the Physics 11 requirement.~~

Approved Grade 11 Language Courses^{1,4}

Athapaskan (with Athapaskan 12)

American Sign Language (ASL)

Arabic

Chileotin

Français (Communication et Littérature)

Français (Langue)

French

German

Gitksan

Halq'eméylem

Hebrew²

Heiltsuk

Hul'q'umi'num'

IB Ab Initio Language⁵

Italian

Japanese

Korean

Kwak'waka

Latin

Liqwala/Kwak'waka

Mandarin Chinese

Musqueam³

Nisga'a

nsíylx̣een

Nteʔkepmxcin

Nuu-chah-nul't

Nuxhalk



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Punjabi

Russian

Sechelt

Secwepemetsin (Shuswap)

Shashishalhem (Sechelt Language)

Sim'algaxhl Nisga'a

Sm'algyax

Spanish

Tsek'ene

Upper St'at'imcets

¹ External Language Certificate 11 or External Language Assessment 11 will meet the language 11 admission requirement.

² King David High School or Pacific Torah Institute.

³ Taught through UBC courses FNEL 101 and 102.

⁴ Technological limitations prevent UBC from appropriately reflecting some languages in the Calendar. We are working to address this for the future.

⁵ Applicants may present any International Baccalaureate (IB) Ab Initio Language in place of Language 11

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,846,0>

[Homepage](#) → [Admissions](#) → [Applicants Following the BC/Yukon Secondary School Curriculum](#) → Post-secondary Courses that Count Toward BC or Yukon High School Graduation

Proposed Calendar Entry:

Post-secondary Courses that Count Toward BC or Yukon High School Graduation

UBC recognizes certain post-secondary courses, completed as part of the high school graduation requirements, for admission and for transfer credit.

For the purpose of admission, all post-secondary courses completed toward high school graduation must satisfy the requirements of the program of study to which an applicant is admitted, and must be

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,846,0>

[Homepage](#) → [Admissions](#) → [Applicants Following the BC/Yukon Secondary School Curriculum](#) → Post-secondary Courses that Count Toward BC or Yukon High School Graduation

Present Calendar Entry:

Post-secondary Courses that Count Toward BC or Yukon High School Graduation

UBC recognizes certain post-secondary courses, completed as part of the high school graduation requirements, for admission and for transfer credit.

For the purpose of admission, all post-secondary courses completed toward high school graduation must satisfy the requirements of the program of study to which an applicant is admitted, and must be transferable to UBC in accordance with



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transferable to UBC in accordance with agreed-upon equivalencies published in the [BC Transfer Guide](#). Successfully completed post-secondary courses are considered electives and will not be used in place of required courses.

The admission average will be calculated on **all academic Grade 11 and Grade 12 coursework**. Applicants must arrange to have an official transcript sent directly from their post-secondary institution to UBC Undergraduate Admissions.

Courses successfully completed at recognized colleges and universities in BC and Yukon are granted transfer credit in accordance with agreed-upon equivalencies published in the [BC Transfer Guide](#).

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,616,0>

Proposed Calendar Entry:

[Homepage](#) [Admissions](#) [Applicants Following the BC/Yukon Secondary School Curriculum Transition Program](#)

Transition Program

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URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,66,0>

Proposed Calendar Entry:

[Homepage](#) → [Admissions](#) → [Applicants Following the BC/Yukon Secondary School Curriculum](#) → Concurrent Enrolment Policy

Concurrent Enrolment Policy

...

agreed-upon equivalencies published in the [BC Transfer Guide](#). Successfully completed post-secondary courses are considered electives and will not be used in place of required ~~provincially examinable Grade 12 courses~~.

The admission average will be calculated on ~~English 12 and three additional approved examinable Grade 12 courses or approved post-secondary course(s)~~. Applicants must arrange to have an official transcript sent directly from their post-secondary institution to UBC Undergraduate Admissions.

Courses successfully completed at recognized colleges and universities in BC and Yukon are granted transfer credit in accordance with agreed-upon equivalencies published in the [BC Transfer Guide](#).

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,616,0>

Present Calendar Entry:

[Homepage](#) [Admissions](#) [Applicants Following the BC/Yukon Secondary School Curriculum Transition Program](#)

Transition Program

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URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,66,0>

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Concurrent Enrolment Policy

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URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,67,0>

Proposed Calendar Entry:

[Homepage](#) → [Admissions](#) → [Applicants Following the BC/Yukon Secondary School Curriculum](#) → British Columbia Adult Graduation Diploma (BCAGD)

British Columbia Adult Graduation Diploma (BCAGD)

The University recognizes the BCAGD Provincial Diploma for admission to the first year of an undergraduate degree. Applicants who have completed the BCAGD must meet the following admission requirements:

1. Four Adult Basic Education (ABE) Advanced Level or Grade 11 courses, which must include English; Algebraic Mathematics (ABE) or Principles of Mathematics 11; one Science[†]; and one of Social Science (ABE), Social Studies 11, Civic Studies 11, Language 11, or First Nations 12.
2. Four Provincial Level (ABE) or Grade 12, including English, or English 12 First Peoples, and three additional subjects chosen from Biology, Chemistry, Physics, Mathematics (ABE) or Principles of Mathematics 12, Calculus 12, Computer Science (ABE), Economics, Geology, Geography, History, Law 12, English Literature, and Languages.

Excludes ABE General and Applied Science and Grade 11 Resource Science.

A minimum final course grade of 70% in either English 11 or English 12 is required for all programs. Applicants from recognized secondary schools must write the BC English 12 Provincial Examination, even if not required for the BCAGD. BC Provincial

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,67,0>

Proposed Calendar Entry:

[Homepage](#) → [Admissions](#) → [Applicants Following the BC/Yukon Secondary School Curriculum](#) → British Columbia Adult Graduation Diploma (BCAGD)

British Columbia Adult Graduation Diploma (BCAGD)

The University recognizes the BCAGD Provincial Diploma for admission to the first year of an undergraduate degree. Applicants who have completed the BCAGD must meet the following admission requirements:

3. Four Adult Basic Education (ABE) Advanced Level or Grade 11 courses, which must include English; Algebraic Mathematics (ABE) or Principles of Mathematics 11; one Science[†]; and one of Social Science (ABE), Social Studies 11, Civic Studies 11, Language 11, or First Nations 12.
4. Four Provincial Level (ABE) or Grade 12, including English, or English 12 First Peoples, and three additional subjects chosen from Biology, Chemistry, Physics, Mathematics (ABE) or Principles of Mathematics 12, Calculus 12, Computer Science (ABE), Economics, Geology, Geography, History, Law 12, English Literature, and Languages.

Excludes ABE General and Applied Science and Grade 11 Resource Science.

A minimum final course grade of 70% in either English 11 or English 12 is required for all programs. Applicants from recognized secondary schools must write the BC English 12 Provincial Examination, even if not required for the BCAGD. BC Provincial



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Examination results will be used if the examination result increases the applicant's admission average. However, in cases where a significant discrepancy exists between the course grade and the examination grade, UBC reserves the right to use the examination grade only.

The overall admission average will be calculated on all academic Grade 11 and Grade 12 coursework, including ABE Provincial Level English, or English 12, or English 12 First Peoples.

A minimum average of 70% is required for admission to all programs. However, due to limited enrolment, a higher average is required in most programs. All courses must be completed by June. Summer school courses or grades obtained in supplemental examinations will not be considered.

Entrance requirements to specific programs parallel those for BC/Yukon secondary school graduates and applicants should refer to the table [Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum](#) to ensure they have the required courses.

Adult Basic Education (ABE) Courses

UBC accepts the BC Certificate of Graduation (Dogwood) in combination with Adult Basic Education (ABE) Provincial Level courses completed at recognized secondary schools, adult education centres, or post-secondary institutions.

For applicants who complete ABE Provincial Level courses, but do not complete the BC Adult Graduation Diploma (BCAGD), **the overall admission average will be calculated on all academic Grade 11 and Grade 12 coursework, including ABE Provincial Level English, English 12, or English 12 First**

Examination results will be used if the examination result increases the applicant's admission average. However, in cases where a significant discrepancy exists between the course grade and the examination grade, UBC reserves the right to use the examination grade only.

~~The admission average will be calculated on ABE Provincial Level English, or English 12, or English 12 First Peoples, and three other ABE Provincial Level or Grade 12 courses, each of which must be graded.~~

A minimum average of 70% is required for admission to all programs. However, due to limited enrolment, a higher average is required in most programs. All courses must be completed by June. Summer school courses or grades obtained in supplemental examinations will not be considered.

Entrance requirements to specific programs parallel those for BC/Yukon secondary school graduates and applicants should refer to the table [Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum](#) to ensure they have the required courses.

Adult Basic Education (ABE) Courses

UBC accepts the BC Certificate of Graduation (Dogwood) in combination with Adult Basic Education (ABE) Provincial Level courses completed at recognized secondary schools, adult education centres, or post-secondary institutions.

For applicants who complete ABE Provincial Level courses, but do not complete the BC Adult Graduation Diploma (BCAGD), ~~the admission average will be calculated on ABE Provincial Level English, or English 12, or English 12 First Peoples, and three other ABE Provincial Level or Grade 12 courses, each of~~



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| | | | | |
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| Peoples. | which must be graded. | | | |
| A minimum final course grade of 70% in either English 11 or English 12 is required for all programs. | A minimum final course grade of 70% in either English 11 or English 12 is required for all program | | | |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,68,0 | | | | |
| Delete section: Homepage → Admissions → Applicants Following the BC/Yukon Secondary School Curriculum → Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum | | | | |
| Table of program specific requirements moved to: “ Homepage→Admissions→ Program Requirements for Canadian Secondary School Applicants ” | | | | |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,22,68,0 | | | | |
| Homepage → Admissions → Applicants Following the BC/Yukon Secondary School Curriculum → Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum | | | | |
| Specific Program Requirements for Applicants Following the BC/Yukon Secondary School Curriculum | | | | |
| Below are the required courses used in the calculation of the admission average for specific programs, as well as courses that are required but are not used in the calculation of the average: | | | | |
| Program | Degree | Faculty/School | Average Calculated on the Following Required Courses or IB/AP Equivalents | Courses Required but not included in the Calculation of the Average |
| Applied Biology | B.Sc. (Applied Biology) | Land and Food Systems | English 12 Principles of Mathematics 12 or Pre-Calculus 12 One of Biology 12, Chemistry 12, Geology 12 or Physics 12 One other approved examinable Grade 12 course | English 11 Language 11 Principles of Mathematics 11 or Pre-Calculus 11 Two of Biology 11, Chemistry 11, or Physics 11 Social Studies 11 |
| Arts | B.A. | Arts | English 12 Three other approved | English 11 Language 11 |



| | | | | |
|---|------------------------------------|--------------------------------------|--|---|
| | | | examinable Grade 12 courses | One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Commerce (Direct Entry) | B.Com. | Commerce and Business Administration | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 Two other approved examinable Grade 12 courses | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Dental Science | B.D.Sc. (Dental Hygiene) | Dentistry | English 12 Biology 12 Chemistry 12 One other approved examinable Grade 12 course | Biology 11 Chemistry 11 English 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Language 11 Social Studies 11 |
| Engineering | B.A.Sc. | Applied Science | English 12 Chemistry 12 Principles of Mathematics 12 or Pre-Calculus 12 Physics 12 ⁺ | English 11 Language 11 Chemistry 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Physics 11 Social Studies 11 |
| Food, Nutrition and Health | B.Sc. (Food, Nutrition and Health) | Land and Food Systems | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 One of Biology 12, Chemistry 12, Geology 12, Physics 12 One other approved examinable Grade 12 course | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Two of Biology 11, Chemistry 11 or Physics 11 Social Studies 11 |
| Forest Operations, Forest Resource Management | B.S.F. | Forestry | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 One of Chemistry 12, Physics 12, or Biology 12 One other approved | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 |



| | | | | |
|--------------------------------|--|-------------|---|---|
| | | | examinable Grade 12 course | Two of Biology 11, Chemistry 11, or Physics 11 Social Studies 11 |
| Forest Science | B.Sc. (Forestry) | Forestry | Same as for B.S.F. (above) | Same as for B.S.F. (above) |
| International Economics | B.I.E. | Arts | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 Two other approved examinable Grade 12 courses | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Kinesiology | B.Kin. | Kinesiology | English 12 One of Principles of Mathematics 12, Pre-Calculus 12, Biology 12, Chemistry 12, Geology 12 or Physics 12 Two other approved examinable Grade 12 courses | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Media Studies | B.M.S. | Arts | English 12 One of Geography 12, History 12, or English Literature 12 Two other approved examinable Grade 12 courses | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Music | B.Mus. | Music | English 12 Three other approved examinable Grade 12 courses | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |
| Natural Resources Conservation | B.Sc. (Natural Resources Conservation) | Forestry | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 One of Biology 12, Chemistry 12, or Physics 12 One other approved examinable Grade 12 course | English 11 Chemistry 11 One of Biology 11 or Physics 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Science 11 Social Studies 11 |



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| | | | | |
|--------------------------|----------------------------------|----------|--|--|
| Science | B.Sc. | Science | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 (minimum 67% grade) Two other approved examinable Grade 12 courses, including at least one of Biology 12, Chemistry 12, Geology 12 or Physics 12 | English 11 Language 11 Chemistry and Physics 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Social Studies 11 |
| Urban Forestry | B.U.F. | Forestry | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 One of Biology 12, Chemistry 12, Physics 12 One other approved examinable Grade 12 course | English 11 Language 11 Chemistry 11 One of Biology 11 or Physics 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 |
| Wood Products Processing | B.Sc. (Wood Products Processing) | Forestry | English 12 One of Principles of Mathematics 12 or Pre-Calculus 12 One of Biology 12, Chemistry 12, Physics 12 One other approved examinable Grade 12 course | English 11 Language 11 One of Principles of Mathematics 11, Pre-Calculus 11, or Foundations of Mathematics 12 Chemistry 11 Physics 11 Social Studies 11 |

⁺ The Faculty of Applied Science will accept applications from students missing Physics 12 (or equivalent). Applicants missing Physics 12 must present strong grades in one of the following courses (or equivalents): Biology 12, Geology 12, Computer Science 12, or Calculus 12.

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|---|---|
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,23,0,0</p> <p>Proposed Calendar Entry</p> <p>Replaced with entry below:</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,23,0,0</p> <p>Proposed Calendar Entry</p> <p>Homepage → Admissions → Applicants Following Secondary School Curricula in Canada, outside of BC/Yukon</p> <p><i>Applicants Following Secondary School Curricula in Canada, outside of BC/Yukon</i></p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,23,0,0</p> <p>Proposed Calendar Entry:</p> | |



[Homepage](#) → [Admissions](#) → **Applicants Following Canadian Secondary School Curricula**

Applicants Following Canadian Secondary School Curriculum

The following information should be considered in conjunction with the program-specific admission requirements listed in **Homepage→Admissions→ Program Requirements for Canadian Secondary School Applicants (hotlink to new table)**

Academic averages for the purpose of admission to UBC are primarily based on grade 12 final or in-progress course grades; however, an applicant's full academic history may be considered, particularly where sufficient Grade 12 grade information is not yet available. Certain programs may require a competitive minimum grade in individual prerequisite courses used in the calculation of the admission average.

Applicants must arrange for their high school grades to be submitted to UBC Admissions before the stated document deadline. The grade record must include all final grades to date and a list of courses in progress with interim grades where possible. All offers of admission are subject to satisfactory completion of secondary school graduation requirements, completion of all required courses, and maintenance of minimum university admission standards. Offers of admission may be withdrawn from students who do not satisfy these requirements.

Applicants who have followed an academic program leading to university entrance will be considered for admission. Graduation from a recognized secondary school is required.

The following Provincial Requirements apply:

Alberta, NWT and Nunavut:

Equivalencies with BC

- **English Language Arts 30-1 is the Alberta, NWT and Nunavut equivalent of BC English 12. English Language Arts 30-2 cannot be used as a substitute for English Language Arts 30-1.**
- **Mathematics 30-1 or Pure Math 30 are the Alberta, NWT and Nunavut equivalents of BC Pre-Calculus 12.**
- **Math 30-2, Applied Math 30, and Math 30-3 cannot be used as a substitute for Mathematics 30-1 or Pure Math 30.**
- **Math 31 is the Alberta, NWT and Nunavut equivalent of BC Calculus 12.**
- **Alberta 20-level sciences are equivalent to BC grade 11 sciences in the same subject area.**

Other relevant Alberta courses

- **UBC will consider Alberta, NWT and Nunavut courses numbered 30-2 towards an assessment of the applicant's breadth of coursework. However, the grades for these classes will not factor into the admission decision (Math 30-2 is the one exception; grades in Math 30-2 will be used in the academic assessment, but Math 30-2 cannot be**



used as a substitute for Math 30-1).

- 35-level courses and associated grades can be used in the academic assessments.
- UBC will consider Alberta, NWT and Nunavut 3-credit or 1-credit classes that are relevant to an applicant's intended area of study towards an assessment of the applicant's breadth of coursework. The grades may be used in the admissions assessment on a case-by-case basis.

Saskatchewan

Equivalencies with BC

- English A30 and B30 together are the Saskatchewan equivalent of BC English 12; one of these two English courses can be replaced with the following Français A30, Français B30 or Français Immersion.
- English Additional Language A20 or B20 cannot be used as substitutes for English A30 and B30.
- Pre-Calculus 30 is the Saskatchewan equivalent to BC Pre-Calculus 12.
- The Saskatchewan curriculum does not offer equivalents to BC Biology 11, Chemistry 11 or Physics 11 but rather groups science 11 courses as Physical Science 20 or Health Science 20.
- Saskatchewan 30-level sciences are equivalent to BC grade 12 sciences in the same subject area.

Manitoba

Equivalencies with BC

- The following English Language Arts 40S variants are the Manitoba equivalent to BC English 12:
 - Comprehensive Focus
 - Literary Focus
 - Transactional Focus
 - Language and Literary Forms
 - Language and Transactional Forms
 Manitoba Anglais 40S and Français 40S can also be used to satisfy the BC English 12 requirement.
- English Language Arts 40S Language and Technical Communication and English as an Additional Language for Academic Success cannot be used as equivalents to BC English 12.
- Pre-Calculus Mathematics 40S is the Manitoba equivalent of BC Pre-Calculus 12.
- Manitoba 30S sciences are equivalent to BC grade 11 sciences in the same subject area.

Other relevant Manitoba Courses

- Calculus 45A combined with Topics in Math 45A are together considered the Manitoba equivalent to BC Calculus 12.

Ontario

Equivalencies with BC

- ENG4U is the Ontario equivalent of BC English 12. ETS4U (Studies in Literature) and EWC4U (Writers' Craft) are Ontario equivalents to BC English Literature 12.
- MHF4U (Advanced Functions) is the Ontario equivalent of BC Pre-Calculus 12. MCV4U (Calculus and Vectors) is the Ontario equivalent of BC Calculus 12. MDM4U (Mathematics of Data Management) is the equivalent of BC Foundations of Math 12 and cannot be used to satisfy BC Pre-Calculus 12.
- Ontario 3U sciences are equivalent to BC grade 11 sciences in the same subject area.

Quebec

Applicants graduating from the 11-year *école secondaire* system are not considered for direct admission to UBC. Such students are considered only after one year in a pre-university diploma program at a CEGEP. For more information, see [Applicants from a CEGEP](#).

Nova Scotia

Equivalencies with BC

- Course numbering in Nova Scotia are closely aligned with those in BC. English 12 is the Nova Scotia equivalent of BC English 12.
- Pre-Calculus 12 is the Nova Scotia equivalent of BC Pre-Calculus 12.
- Nova Scotia grade 11 sciences are equivalent to BC grade 11 sciences in the same subject area.
- Calculus 12 is the Nova Scotia equivalent of BC Calculus 12.

New Brunswick

Equivalencies with BC

- English 121 or English 122 are the New Brunswick equivalents of BC English 12.
- Pre-Calculus A 120 & Pre-Calculus B 120 (both completed) are the New Brunswick equivalent to BC Pre-Calculus 12.
- Biology 111 or 112 are the New Brunswick equivalents to BC Biology 11, Physics 111 or 112 are the equivalents to BC Physics 11, and Chemistry 111 or 112 are the equivalents to BC Chemistry 11.
- Biology 121 or 122 are the New Brunswick equivalents to BC Biology 12, Physics 121 or 122 are the New Brunswick equivalent to BC Physics 12, and Chemistry 121 or 122 are the New Brunswick equivalent to Chemistry 12.

Other relevant New Brunswick courses

- Calculus 120 is the New Brunswick equivalent of BC Calculus 12.

Prince Edward Island (PEI)



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Equivalencies with BC

- ENG 621A is the PEI equivalent of BC English 12.
- MAT 611B, or one of MAT 621A or MAT 621B are PEI equivalents of BC Pre-Calculus 12.
- BIO 621A is the PEI equivalent of BC Biology 12, CHE 621A is the PEI equivalent of Chemistry 12, and PHY 621A is the PEI equivalent of BC Physics 12.

Newfoundland and Labrador**Equivalencies with BC**

- English 3201 is the Newfoundland/Labrador equivalent of BC English 12.
- Math 3200 or 3201 or 3208 are the Newfoundland/Labrador equivalents of BC Pre-Calculus 12. Math 3103 and Math 3206 cannot be used as equivalents of BC Pre-Calculus 12.
- Biology 3201 is the Newfoundland/Labrador equivalent of BC Biology 12, Chemistry 3202 is the Newfoundland/Labrador equivalent of BC Chemistry 12, and Physics 3204 is the Newfoundland/Labrador equivalent of BC Physics 12.

URL: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,23,0,0>

Present Calendar Entry:

[Homepage](#) → [Admissions](#) → ~~Applicants Following Secondary School Curricula in Canada, outside of BC/Yukon~~

~~Applicants Following Secondary School Curricula in Canada, outside of BC/Yukon~~

~~Introduction →~~

~~Determining Admissibility →~~

~~Specific Program Requirements →~~

~~Introduction~~

~~Applicants who have followed an academic program leading to university entrance will be considered for admission. Graduation from a recognized secondary school is required.~~

~~Applicants must present English to the senior year level and a minimum final grade of 70% (or equivalent) in either English 11 or English 12. All prescribed subjects for the university studies sought, including a minimum standing in some courses, are required. (See the table [Specific Program Requirements](#).)~~



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Applicants must present an admission average that meets or exceeds the [minimum academic standard for secondary school applicants](#).

The following **Provincial Requirements** apply:

- **Ontario.** Ontario Secondary School Diploma with six appropriate Ontario Academic Courses (OACs) including English (OAC I) or a minimum of six Grade 12 U/M courses including English (ENG4U).
- **Quebec.** Applicants graduating from the 11-year *école secondaire* system are not considered for direct admission to UBC. Such students are considered only after one year in a pre-university diploma program at a CEGEP. For more information, see [Applicants from a CEGEP](#).
- **Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia, PEI, Newfoundland, Northwest Territories, and Nunavut.** Grade 12 graduation with standing in at least five appropriate academic Grade 12 courses including English.

The minimum period of study for a UBC degree is four years.

Further information on appropriate academic courses is available through [yoube Vancouver](#).

Determining Admissibility

Academic criteria are the primary basis for determining admissibility to UBC; however, many programs consider non-academic information as well. See [Personal Profile](#) for further information on non-academic admission criteria.

Academic averages for the purpose of admission to UBC are primarily based on grade 12 final or in-progress course grades; however, an applicant's full academic history may be considered, particularly where sufficient Grade 12 grade information is not yet available. Certain programs may require a competitive minimum grade in individual prerequisite courses used in the calculation of the admission average.

Applicants must arrange for their high school grades to be submitted to UBC Admissions before the stated document deadline. The grade record must include all final grades to date and a list of courses in progress with interim grades where possible. All offers of admission are subject to satisfactory completion of secondary school graduation requirements, completion of all required courses, and maintenance of minimum university admission standards. Offers of admission may be withdrawn from students who do not satisfy these requirements.

Specific Program Requirements

The information contained in the table below applies to applicants from outside BC/Yukon, but is expressed in BC/Yukon terms. Undergraduate Admissions will determine course equivalency. These requirements are in addition to specific [Provincial Requirements](#).

Specific Program Requirements for Students Applying from Outside of



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BC/Yukon

| Program | Degree | Faculty/School | Secondary school graduation must include: |
|--|--|-----------------------|---|
| Applied Biology | B.Sc. (Applied Biology) | Land and Food Systems | English 12 Principles of Mathematics 12 or Pre-Calculus 12 Two of Biology 11, Chemistry 11, Physics 11 One of Biology 12, Chemistry 12, Geology 12, Physics 12 |
| Arts | B.A. | Arts | English 12 |
| Commerce (Direct Entry) | B.Com. | Commerce | English 12 Principles of Mathematics 12 |
| Dental Science in Dental Hygiene | B.D.Sc. (Dental Hygiene) | Dentistry | English 12 Biology 12 Chemistry 12 |
| Engineering | B.A.Sc. | Applied Science | English 12 Principles of Mathematics 12 Chemistry 12 Physics 12 |
| Food, Nutrition and Health | B.Sc. (Food, Nutrition and Health) | Land and Food Systems | English 12 Principles of Mathematics 12 Two of Biology 11, Chemistry 11, Physics 11 One of Biology 12, Chemistry 12, Geology 12, Physics 12 |
| Forest Operations, Forest Resources Management | B.S.F. | Forestry | English 12 Principles of Mathematics 12 Two of Chemistry 11, Physics 11, Biology 11 One of Chemistry 12, Physics 12, Biology 12 |
| Forest Science | B.Sc. (Forestry) | Forestry | Same as for B.S.F. (above) |
| International Economics | B.I.E. | Arts | English 12 Principles of Mathematics 12 |
| Kinesiology | B.Kin. | Kinesiology | English 12 One of Biology 12, Chemistry 12, Geology 12, Principles of Mathematics 12, Physics 12 |
| Media Studies | B.M.S. | Arts | English 12 One of Geography 12, History 12, or English Literature 12 |
| Natural Resources Conservation | B.Sc. (Natural Resources Conservation) | Forestry | English 12 Principles of Mathematics 12 One of Biology 12, Chemistry 12, or Physics 12 Chemistry 11 One of Biology 11 or Physics 11 |
| Science | B.Sc. | Science | English 12 Principles of Mathematics 12 (minimum |



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| | | | |
|-----------------------------|-------------------------------------|----------|---|
| | | | 67% grade) Chemistry 11 Physics 11 One of Biology 12, Chemistry 12, Geology 12, Physics 12 |
| Urban Forestry | B.U.F. | Forestry | English 12 Principles of Mathematics 12 One of Biology 12, Chemistry 12, or Physics 12 Chemistry 11 One of Biology 11 or Physics 11 |
| Wood Products Processing | B.Sc. (Wood Products Processing) | Forestry | English 12 Principles of Mathematics 12 Physics 11, Chemistry 11 One of Physics 12, Chemistry 12, Biology 12 |

| | |
|---|--|
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,279,0,0 (Immediately following Homepage → Admissions → Applicants Following Canadian Secondary School Curricula at: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,23,0,0)</p> <p>Proposed Calendar Entry:</p> <p>Homepage → Admissions → Applicants with International Baccalaureate and Advanced Placement Courses</p> <p><i>Applicants with International Baccalaureate and Advanced Placement Courses</i></p> <p>UBC recognizes these advanced secondary school programs for admission and for transfer credit.</p> <p>Program requirements listed in “Program Requirements for Canadian Secondary School Applicants” [hotlink to table] will be applied to applicants, as appropriate, for the IB or AP curriculum presented for admission.</p> <p>International Baccalaureate Diploma Students</p> <p>For students who complete the International Baccalaureate (IB) Diploma, admission to the University will require a minimum of 24 points including bonus points. Due to limited enrolment, a higher score will be required for admission to most programs.</p> <p>A minimum final grade of "3" in IB English A1 or A2 (Standard or Higher Level) is required for all programs.</p> <p>IB Diploma students are required to complete all courses that are part of their IB</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,279,0,0</p> <p>Present Calendar Entry:</p> <p>Homepage → Admissions → Applicants with International Baccalaureate and Advanced Placement Courses</p> <p><i>Applicants with International Baccalaureate and Advanced Placement Courses</i></p> <p>UBC recognizes these advanced secondary school programs for admission and for transfer credit.</p> <p>International Baccalaureate Diploma Students</p> <p>For students who complete the International Baccalaureate (IB) Diploma, admission to the University will require a minimum of 24 points including bonus points. Due to limited enrolment, a higher score will be required for admission to most programs.</p> <p>A minimum final grade of "3" in IB English A1 or A2 (Standard or Higher Level) is required for all programs.</p> |
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Diploma. All courses will be considered as part of the overall assessment. UBC will focus on all IB HL and SL subject areas that fall into course categories relevant to the applicant's intended area of study to form the core assessment. It is encouraged, but not necessary, to take IB courses to the HL level in subject areas related to the intended area of study. Ab Initio language courses and grades will be used in the overall and core assessments for students completing the full IB diploma.

International Baccalaureate Certificate Students

International Baccalaureate certificate courses may be combined with an approved high school credential for the purpose of admission.

For students who present International Baccalaureate certificate courses, the admission average will be calculated on the higher of either the official IB final score or the final school grade. In those cases where an IB score is not available at the time of admission selection, the course grade will be used.

The grade conversion scale that will be used to determine admission based on official IB results is as follows. **Note that the equivalences are based upon whether the IB course is presented at the Standard Level (SL) or the Higher Level (HL).** Also, special notation is made to recognize students who take IB Math Higher Level.

| IB SL Grade | IB HL Grade | IB HL Math Grade | % Equivalent |
|-------------|-------------|------------------|--------------|
| -- | -- | 7 | 100 |
| -- | 7 | 6 | 98 |
| 7 | 6 | 5 | 96 |
| 6 | 5 | 4 | 90 |
| 5 | 4 | 3 | 86 |
| 4 | 3 | -- | 76 |
| 3 | -- | -- | 70 |

International Baccalaureate Certificate Students

International Baccalaureate certificate courses may be combined with an approved high school credential for the purpose of admission.

For students who present International Baccalaureate certificate courses, the admission average will be calculated on the higher of either the official IB final score or the final school grade. In those cases where an IB score is not available at the time of admission selection, the course grade will be used.

The grade conversion scale that will be used to determine admission based on official IB results is as follows:

| IB Grade | % Equivalent |
|----------|--------------|
| 7 | 96 |
| 6 | 90 |
| 5 | 86 |
| 4 | 76 |
| 3 | 70 |



International Baccalaureate Transfer Credit

Credit for equivalent first-year UBC courses will be awarded to students who achieve a grade of at least 5 in Higher Level IB Arts courses and 6 in Higher Level IB Science courses. Select Standard Level IB courses may also be awarded credit. Details are provided at [Admissions](#).

Advanced Placement Students

Advanced Placement (AP) courses may be combined with an approved high school credential for the purpose of admission.

For students who present Advanced Placement courses, the admission average will be calculated on the higher of either the final AP exam score or the final school grade. In those cases where an AP examination grade is not available at the time of admission selection, the course grade will be used.

The grade conversion scale that will be used to determine admission based on official AP results is as follows:

| AP Grade | % Equivalent |
|----------|--------------|
| 5 | 96 |
| 4 | 86 |
| 3 | 80 |
| 2 | 70 |

Advanced Placement Transfer Credit

Credit for equivalent first-year UBC courses will be awarded to students who achieve a grade of 4 or better on the appropriate AP course. Details are available at [Admissions](#).

Advanced Placement and International Baccalaureate Courses

International Baccalaureate Transfer Credit

Credit for equivalent first-year UBC courses will be awarded to students who achieve a grade of at least 5 in Higher Level IB Arts courses and 6 in Higher Level IB Science courses. Select Standard Level IB courses may also be awarded credit. Details are provided at [Admissions](#).

Advanced Placement Students

Advanced Placement (AP) courses may be combined with an approved high school credential for the purpose of admission.

For students who present Advanced Placement courses, the admission average will be calculated on the higher of either the final AP exam score or the final school grade. In those cases where an AP examination grade is not available at the time of admission selection, the course grade will be used.

The grade conversion scale that will be used to determine admission based on official AP results is as follows:

| AP Grade | % Equivalent |
|----------|--------------|
| 5 | 96 |
| 4 | 86 |
| 3 | 80 |
| 2 | 70 |

Advanced Placement Transfer Credit

Credit for equivalent first-year UBC courses will be awarded to students who achieve a grade of 4 or better on the appropriate AP course. Details are available at [Admissions](#).



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Approved to Satisfy Pre-requisites

| Grade 12 Course | Advanced Placement Course | International Baccalaureate Course (Standard or Higher-Level) |
|---|----------------------------------|---|
| Biology 12 | Biology | Biology |
| Chemistry 12 | General Chemistry | Chemistry |
| English 12 | English Language and Composition | English Language A |
| Physics 12 | Physics (B or C) | Physics |
| Principles of Mathematics 12 ¹ | | Mathematics ² |

¹ One of AP Calculus (AB or BC) or the UBC-SFU-UVIC-UNBC Calculus Examination Certificate may be used as an elective course (in addition to Principles of Mathematics 12).

² IB Math Studies does not satisfy the pre-requisite of Principles of Mathematics 12.

Advanced Placement and International Baccalaureate Courses Approved to Satisfy Pre-requisites

| Grade 12 Course | Advanced Placement Course | International Baccalaureate Course (Standard or Higher-Level) |
|---|----------------------------------|---|
| Biology 12 | Biology | Biology |
| Chemistry 12 | General Chemistry | Chemistry |
| English 12 | English Language and Composition | English Language A |
| Physics 12 | Physics (B or C) | Physics |
| Principles of Mathematics 12 ¹ | | Mathematics ² |

¹ One of AP Calculus (AB or BC) or the UBC-SFU-UVIC-UNBC Calculus Examination Certificate may be used as an elective course (in addition to Principles of Mathematics 12).

² IB Math Studies does not satisfy the pre-requisite of Principles of Mathematics 12.

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| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,293,0,0</p> <p>Proposed Calendar Entry:</p> <p>Homepage → Admissions → Applicants Following American Secondary School Curriculum</p> <p><i>Applicants Following American Secondary School Curriculum</i></p> <p>Applicants following the American secondary school curriculum must present the following minimum criteria to be considered for admission:</p> <ul style="list-style-type: none"> • graduation from an academic or college preparation program at a US regionally-accredited school; • English to the senior level (not ESL); • three years of mathematics to the junior level; • a minimum final grade of 70% (or equivalent) in either junior or senior year English; and • either (a) SAT 1, or ACT, plus Writing (in countries where the SAT and ACT are unavailable, exemptions may be granted). <p>Certain programs may require a competitive minimum grade in individual prerequisite courses.</p> <p>Students applying with a US High school diploma are recommended to present at least six senior-level courses as part of their diploma. Applicants with a strong academic record who do not present the minimum number of courses as per above will be</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,293,0,0</p> <p>Present Calendar Entry:</p> <p>Homepage → Admissions → Applicants Following American Secondary School Curriculum</p> <p><i>Applicants Following American Secondary School Curriculum</i></p> <p>Applicants following the American secondary school curriculum must present the following minimum criteria to be considered for admission:</p> <ul style="list-style-type: none"> • graduation from an academic or college preparation program at a US regionally-accredited school; • English to the senior level (not ESL); • at least three other senior academic subjects and prerequisites appropriate for the intended program of study; • three years of mathematics to the junior level; • a minimum final grade of 70% (or equivalent) in either junior or senior year English; and • either (a) SAT 1, or ACT, plus Writing (in countries where the SAT and ACT are unavailable, exemptions may be granted). <p>Certain programs may require a competitive minimum grade in individual prerequisite courses.</p> |
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| <p>considered on a case-by-case basis.</p> <p>Academic courses are generally taken in the junior or senior year of secondary school but some appropriate courses may be taken earlier than this. Inclusion of those courses in the overall or core assessment will be determined by the Undergraduate Admissions Office at the time of review. For example, it is possible for students to take AP courses, and some science courses, earlier than junior year. Courses such as these are appropriate for admission, and will be in overall and core assessments.</p> <p>Program requirements listed in “Program Requirements for Canadian Secondary School Applicants” [<i>hotlink to table</i>] will be applied to applicants, as appropriate, for the US secondary school curriculum presented for admission.</p> <p>The University reserves the right to determine whether or not a student is eligible for admission and to determine what transfer credit, if any, may be granted.</p> | |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,294,0,0</p> <p>Proposed Calendar Entry:</p> <p>Homepage → Admissions → Applicants Following Other International Secondary School Curricula</p> <p><i>Applicants Following Other International Secondary School Curricula</i></p> <p>All applicants applying to UBC from a secondary school offering English-medium instruction must present a minimum final grade of 70% (or equivalent) in either junior (Grade 11) or senior year (Grade 12) English. Final grades include both the school grade and</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,294,0,0</p> <p>Present Calendar Entry:</p> <p>Homepage → Admissions → Applicants Following Other International Secondary School Curricula</p> <p><i>Applicants Following Other International Secondary School Curricula</i></p> <p>All applicants applying to UBC from a secondary school offering English-medium instruction must present a minimum final grade of 70% (or equivalent) in either junior (Grade 11) or senior year (Grade 12) English. Final grades include both the school grade and</p> |



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| <p>mandatory standardized examination results.</p> <p>Program requirements listed in “Program Requirements for Canadian Secondary School Applicants” [hotlink to table] will be applied to applicants, as appropriate, for the international secondary school curriculum presented for admission.</p> <p>The following list outlines the minimum standing for admission in terms of educational credentials. All students must present prerequisites appropriate for their intended program of study.</p> <ul style="list-style-type: none"> • General Certificate of Secondary Education (GCSE) or General Certificate of Education (GCE), with standing in at least six academic courses from GCSE, AS-Levels, and A-levels and at least three of those courses being at A-level as part of their overall assessment. Applicants with a strong academic record who do not present the minimum number of courses as per above will be considered on a case-by-case basis. It is encouraged, but not necessary, to take courses to the A level in subject areas related to the intended area of study. Courses in Accounting and Business Studies/Management may be used in core and overall assessments. This is an exception to the general description of acceptable courses noted above. • International Baccalaureate (IB). A Diploma with standing in at least six subjects, three at the standard level and three at the higher level, with a Diploma awarded. • French Baccalaureate and French Baccalaureate International Option (OIB). Completion of the <i>baccalauréat général</i> or the <i>baccalauréat général (option internationale)</i>. All sections - S (scientifique), L (littéraire), and ES | <p>mandatory standardized examination results.</p> <p>The following list outlines the minimum standing for admission in terms of educational credentials. All students must present prerequisites appropriate for their intended program of study.</p> <ul style="list-style-type: none"> • General Certificate of Secondary Education (GCSE) or General Certificate of Education (GCE), with standing in at least five subject areas, including English, with three in UBC-approved academic Advanced Level subjects. • International Baccalaureate (IB). A Diploma with standing in at least six subjects, three at the standard level and three at the higher level, with a Diploma awarded. • French Baccalaureate and French Baccalaureate International Option (OIB). Completion of the <i>baccalauréat général</i> or the <i>baccalauréat général (option internationale)</i>. All sections - S (scientifique), L (littéraire), and ES (économique et sociale) - are eligible for |
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| <p>(économique et sociale) - are eligible for consideration. The <i>baccalauréat technologique</i> may be considered for admission on a case-by-case basis.</p> <ul style="list-style-type: none"> • Singapore (completion in 2008 and onward): Applicants must present evidence of completion of the new curriculum. Admission will be based on at least five examinations, including English, with three at the H2 level and two at the H1 level. • Students applying with a Chinese secondary school diploma are recommended to present at least six academic courses as part of their diploma. Applicants with a strong academic record who do not present the minimum number of courses as per above will be considered on a case-by-case basis. Chinese secondary school applicants are also required to present results in the National Higher Education Entrance Examination commonly known as Gaokao. • Other international school systems not listed above: Graduation from an approved university-preparation program within an education system that comprises 12 years of primary and secondary study or the equivalent. The admission average is calculated on academic courses and/or exams completed at the senior level (final year) of study. These courses and/or exams are selected by the UBC Admissions Office. <p>Because of the differences in world educational systems, satisfactory completion of secondary school is not necessarily an acceptable basis for admission to first year. The University reserves the right to determine whether or not a student is eligible for admission and to determine what transfer credit, if any, may be granted.</p> | <p>consideration. The <i>baccalauréat technologique</i> may be considered for admission on a case-by-case basis.</p> <ul style="list-style-type: none"> • Singapore (completion in 2008 and onward): Applicants must present evidence of completion of the new curriculum. Admission will be based on at least five examinations, including English, with three at the H2 level and two at the H1 level. • Other international school systems not listed above: Graduation from an approved university-preparation program within an education system that comprises 12 years of primary and secondary study or the equivalent. The admission average is calculated on academic courses and/or exams completed at the senior level (final year) of study. These courses and/or exams are selected by the UBC Admissions Office. <p>Because of the differences in world educational systems, satisfactory completion of secondary school is not necessarily an acceptable basis for admission to first year. The University reserves the right to determine whether or not a student is eligible for admission and to determine what transfer credit, if any, may be</p> |
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| <p>Certain programs may require a competitive minimum grade in individual prerequisite courses.</p> | <p>granted.</p> <p>Certain programs may require a competitive minimum grade in individual prerequisite courses.</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,276,0,0</p> <p>Homepage → Admissions → Homeschooled Secondary School Applicants</p> <p>Proposed Calendar Entry</p> <p><i>Homeschooled Secondary School Applicants</i></p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,276,0,0</p> <p>Homepage Admissions Homeschooled Secondary School Applicants</p> <p>Present Calendar Entry</p> <p><i>Homeschooled Secondary School Applicants</i></p> <p>...</p> |
| <p>http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,17,0,0</p> <p>Homepage → Admissions → Advanced Credit or Placement</p> <p>Proposed Calendar Entry:</p> <p><i>Advanced Credit or Placement</i></p> <p>....</p> <p>Calculus Examination Certificate</p> <p>...</p> | <p>http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,17,0,0</p> <p>Homepage Admissions Advanced Credit or Placement</p> <p>Present Calendar Entry:</p> <p><i>Advanced Credit or Placement</i></p> <p>...</p> <p>Calculus Examination Certificate</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,26,0,0</p> <p>Homepage → Admissions → International Applicants</p> <p>Proposed Calendar Entry:</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,26,0,0</p> <p>Homepage → Admissions → International Applicants</p> <p>Present Calendar Entry:</p> |



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| <p><i>International Applicants</i></p> <p>...</p> | <p><i>International Applicants</i></p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,309,0,0</p> <p>Homepage → Admissions → Applicants to Vantage College</p> <p>Proposed Calendar Entry:</p> <p><i>Applicants to Vantage College</i></p> <p>....</p> <p>English Language Requirements</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Calculation of Admission Average for Applicants to UBC Vantage College from BC/Yukon Secondary School Curriculum</p> <p>...</p> <p>Transfer Credit</p> <p>...</p> <p>Appeals on Admission Decisions</p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,309,0,0</p> <p>Homepage → Admissions → Applicants to Vantage College</p> <p>Present Calendar Entry:</p> <p><i>Applicants to Vantage College</i></p> <p>....</p> <p>English Language Requirements</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Calculation of Admission Average for Applicants to UBC Vantage College from BC/Yukon Secondary School Curriculum</p> <p>...</p> <p>Transfer Credit</p> <p>...</p> <p>Appeals on Admission Decisions</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,25,0,0</p> <p>Homepage → Admissions → Applicants from a Post-Secondary Institution</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,25,0,0</p> <p>Homepage → Admissions → Applicants from a Post-Secondary Institution</p> |



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| <p>Proposed Calendar Entry:</p> <p><i>Applicants from a Post-Secondary Institution</i></p> <p>Contents</p> <p>Introduction→</p> <p>...</p> <p>Applicants from a College or University→</p> <p>...</p> <p>Applicants from a CEGEP→</p> <p>...</p> <p>Program-Specific Prerequisites→</p> <p>...</p> <p>Maximum Allowable Transfer Credit→</p> <p>...</p> <p>Unassigned Credit→</p> <p>...</p> <p>Associate Degrees→</p> <p>...</p> <p>Credit Earned via Prior Learning Assessment or Challenge→</p> <p>...</p> <p>Bridging Programs and Pre-Majors→</p> <p>...</p> <p>Applicants from an Institute of Technology→</p> <p>...</p> <p>Appealing for Additional Credit→</p> <p>...</p> | <p>Present Calendar Entry:</p> <p><i>Applicants from a Post-Secondary Institution</i></p> <p>Contents</p> <p>Introduction→</p> <p>...</p> <p>Applicants from a College or University→</p> <p>...</p> <p>Applicants from a CEGEP→</p> <p>...</p> <p>Program-Specific Prerequisites→</p> <p>...</p> <p>Maximum Allowable Transfer Credit→</p> <p>...</p> <p>Unassigned Credit→</p> <p>...</p> <p>Associate Degrees→</p> <p>...</p> <p>Credit Earned via Prior Learning Assessment or Challenge→</p> <p>...</p> <p>Bridging Programs and Pre-Majors→</p> <p>...</p> <p>Applicants from an Institute of Technology→</p> <p>...</p> <p>Appealing for Additional Credit→</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,18,0,0</p> <p>Homepage → Admissions → Admission to Undergraduate Programs Requiring Prior Study</p> <p>Proposed Calendar Entry</p> <p><i>Admission to Undergraduate Programs Requiring Prior Study</i></p> <p>...</p> <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,18,0,0</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,18,0,0</p> <p>Homepage → Admissions → Admission to Undergraduate Programs Requiring Prior Study</p> <p>Present Calendar Entry</p> <p><i>Admission to Undergraduate Programs Requiring Prior Study</i></p> <p>...</p> <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,18,0,0</p> |



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| m?tree=2,290,0,0 Proposed Calendar Entry: Homepage → Admissions → Mature Applicants <i>Mature Applicants</i> ... | m?tree=2,290,0,0 Present Calendar Entry: Homepage → Admissions → Mature Applicants <i>Mature Applicants</i> ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,14,0,0 Homepage → Admissions → Canadian Aboriginal Applicants Proposed Calendar Entry: <i>Canadian Aboriginal Applicants</i> ... | URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,14,0,0 Homepage → Admissions → Canadian Aboriginal Applicants Present Calendar Entry: <i>Canadian Aboriginal Applicants</i> ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,15,0,0 Homepage → Admissions → Applicants with Disabilities Proposed Calendar Entry: <i>Applicants with Disabilities</i> ... | URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,15,0,0 Homepage → Admissions → Applicants with Disabilities Proposed Calendar Entry: <i>Applicants with Disabilities</i> ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,308,0,0 Homepage → Admissions → British Columbia Youth in Care Applicants Proposed Calendar Entry: <i>British Columbia Youth in Care Applicants</i> Admission for British Columbia | URL: http://www.calendar.ubc.ca/vancouver/index.cf m?tree=2,308,0,0 Homepage → Admissions → British Columbia Youth in Care Applicants Present Calendar Entry: <i>British Columbia Youth in Care Applicants</i> Admission for British Columbia |



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| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0 Homepage → Admissions → Readmission Proposed Calendar Entry: Readmission ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,273,0,0 Homepage → Admissions → Readmission Present Calendar Entry: Readmission ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,303,0,0 Homepage → Admissions → Change of Degree Program Proposed Calendar Entry: Change of Degree Program ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,303,0,0 Homepage → Admissions → Change of Degree Program Present Calendar Entry: Change of Degree Program ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,274,0,0 Homepage → Admissions → Change of Campus Proposed Calendar Entry: Change of Campus ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,274,0,0 Homepage → Admissions → Change of Campus Present Calendar Entry: Change of Campus ... |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,278,0,0 Homepage → Admissions → Deferred Admission Proposed Calendar Entry: | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,278,0,0 Homepage → Admissions → Deferred Admission Present Calendar Entry: |

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| <p>Deferred Admission</p> <p>...</p> | <p>Deferred Admission</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,29,0,0</p> <p>Homepage → Admissions → Registration in a Course or Program</p> <p>Proposed Calendar Entry:</p> <p>Registration in a Course or Program</p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,29,0,0</p> <p>Homepage → Admissions → Registration in a Course or Program</p> <p>Present Calendar Entry:</p> <p>Registration in a Course or Program</p> <p>...</p> |
| <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,16,0,0</p> <p>Homepage → Admissions → Admission Appeals</p> <p>Proposed Calendar Entry:</p> <p>Admission Appeals</p> <p>Appeals on Undergraduate Admission or Readmission Decisions</p> <p>For graduate appeal procedures, please see the Faculty of Graduate and Postdoctoral Studies section on admission.</p> <p>...</p> <p>Appeals on Revoked Admission Offers</p> <p>...</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,16,0,0</p> <p>Homepage → Admissions → Admission Appeals</p> <p>Present Calendar Entry:</p> <p>Admission Appeals</p> <p>Appeals on Undergraduate Admission or Readmission Decisions</p> <p>For graduate appeal procedures, please see the Faculty of Graduate and Postdoctoral Studies section on admission.</p> <p>...</p> <p>Appeals on Revoked Admission Offers</p> <p>...</p> |



THE UNIVERSITY
OF BRITISH COLUMBIA

Office of the Senate
Brock Hall | 2016 - 1874 East Mall
Vancouver BC V6T 1Z1

Phone 604 822 5239
Fax 604 822 5945
www.senate.ubc.ca

2018/2019 Senate Meeting Schedule

Date 2 February 2018

To Senate

From Agenda Committee

Please be advised that pursuant to Rule 17 (a) of the *Rules and Procedures of Senate*, the Senate meeting schedule for 2018-2019 will be as follows:

- Wednesday September 19, 2018
- Wednesday October 17, 2018
- Wednesday November 21, 2018
- Wednesday December 12, 2018
- Wednesday January 16, 2019
- Wednesday February 20, 2019
- Wednesday March 20, 2019
- Wednesday April 17, 2019
- Wednesday May 15, 2019

All meetings will be from 6:00pm to 8:30pm at the Victoria Theatre (IKBLC 182), unless another location is determined by the Senate Agenda committee.

From: Senate Awards Committee

To: Senate

Re: New Awards and Changes to Existing Awards

NEW AWARDS – ENDOWED

John C. Armstrong, QC Bursary in Law

Bursaries totalling \$2,000 have been made available through an endowment established by John Armstrong, QC, along with matching funds from the University of British Columbia, to JD students studying in the Peter A. Allard School of Law. John is an alumnus of the Allard School of Law class of 1964. The bursaries are adjudicated by Enrolment Services. (First award available in the 2018/19 winter session.)

Patrick and Beryl Campbell Centennial Leaders Award

A \$20,000 renewable entrance award has been made available through an endowment established by the Patrick and Beryl Campbell Charitable Trust, along with matching funds from the University of British Columbia, to undergraduate students entering university directly from secondary school or transferring from another post-secondary institution to an undergraduate program of study. Recipients are academically qualified Canadian citizens or permanent residents of Canada, with preference to students who would not be able to attend UBC without financial assistance. In addition to academic merit, consideration is given to leadership skills, community service and recognized extra-curricular achievement. Subject to continued academic standing, the awards will be renewed for a further three years of study or until the first undergraduate degree is obtained (whichever is the shorter period). As an engineer, UBC alumnus Patrick David Campbell (BASc 1947) enjoyed a career that took him from construction sites in remote corners of the world to the role of president of an international pipeline company. Pat and his wife, Beryl, recognized that education provides a foundation for success, and so made a commitment to support accessible education through their philanthropic trust. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First award available in the 2018/19 winter session.)

Katie and Frank Chang Memorial Prize in Brain Health

Prizes totalling \$1,000 are made available through an endowment established by family and friends in memory of Katie and Frank Chang. The prizes recognize graduating MD students with a strong academic record who plan to pursue brain health as a part of their postgraduate training. The prizes are made on the recommendation of the Faculty of Medicine. (First award available in the 2018/19 winter session.)

Dennis and Daphne Martin Bursary in Engineering

Bursaries totalling \$2,000 have been made available through an endowment established by Daphne Martin, along with matching funds from the University of British Columbia, to students studying engineering in the Faculty of Applied Science. Dennis Martin studied Geological Engineering at UBC (BASc 1973) and went on to receive his MSc (1978) and PhD (1993) from Imperial College in London, England. He became internationally renowned as a consultant engineer, particularly for his work in slope stability, and was a major supporter of UBC's Geological Engineering program as a teacher and mentor. His wife, Daphne, received a BA (Econ.) from UBC in 1972. The bursaries are adjudicated by Enrolment Services. (First award available in the 2018/19 winter session.)

Djavad Mowafaghian Presidential Scholar Award

Two renewable awards of \$20,000 each per year, totalling up to \$80,000 per student over four years have been made available through an endowment established by the Djavad Mowafaghian Foundation, for domestic students of academic distinction entering an undergraduate program at UBC directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. Criteria for these entrance awards include demonstrated academic and leadership achievements in the arts, community, athletics, or school. Subject to maintaining scholarship standing, the award will be renewed for a further three years of study or until the first undergraduate degree is obtained (whichever is the shorter period). The award is made on the recommendation of Enrolment Services. (First award available in the 2018/19 winter session.)

David K.S. Sam Bursary

Bursaries totalling \$2,220 have been made available through an endowment established in memory of David K.S. Sam (BComm 1982) by his wife Melinda, their two children Samantha and Joshua, and family friends, along with matching funds from the University of British Columbia, for undergraduate students entering UBC who demonstrate financial need. Having immigrated to Canada in his early childhood with few resources, David was always grateful for having been given the opportunity to establish a successful career in finance with Toronto Dominion Bank. It was always in David's heart to help others, especially young people who needed what he called a "hand up, not a hand out." He was a humble, kind and gentle soul who was beloved by all who knew him. Preference in descending order will be given to graduates of the following high schools: John Oliver Secondary, Eric Hamber Secondary, or a Vancouver School Board high school. The bursaries are adjudicated by Enrolment Services. (First award available in 2018/19 winter session.)

NEW AWARDS – ANNUAL

Chartered Professional Accountants' Education Foundation Tom Kennedy Memorial Scholarship

A \$1,000 scholarship is offered annually in memory of Tom Kennedy to an outstanding student entering their fourth year in the Accounting Option of the Sauder School of Business. The recipient must express an intent to become a Chartered Professional Accountant (CPA). The award is made on the recommendation of the Sauder School of Business. (First award available in the 2018/19 winter session.)

Chartered Professional Accountants' Education Foundation Lam A. Milne Memorial Scholarship

A \$1,000 scholarship is offered annually in memory of Lam A. Milne to an outstanding student entering their fourth year in the Accounting Option of the Sauder School of Business. The recipient must express an intent to become a Chartered Professional Accountant (CPA). The award is made on the recommendation of the Sauder School of Business. (First award available in the 2018/19 winter session.)

Goldcorp #DisruptMining Award

Three awards of \$10,000 each are offered annually by Goldcorp to undergraduate and graduate students in the Faculty of Applied Science who have demonstrated an interest in fostering growth in innovation and disruptive thinking with the potential to benefit the global mining industry. Preference is given to students who are executing a project and/or pursuing research that addresses the challenges faced by the mining industry. These challenges can include increasing the long-term pipeline for metal and mining projects, enhancing production, lowering costs, strengthening safety, enhancing stakeholder support, reducing environmental footprint, facilitating open and transparent markets, and others. Goldcorp is a senior gold producer based out of Vancouver. The company has six mines and four development projects, employing over 15,000 people across the Americas. The awards are made on the recommendation of the Faculty of Applied Science, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available in the 2018/19 winter session.)

Goldcorp #DisruptMining Leadership Award

A \$20,000 award is offered annually by Goldcorp to an undergraduate or graduate student in the Faculty of Applied Science who demonstrates leadership skills by engaging in industry events, student activities and/or projects that address challenges faced by the mining industry. These challenges can include increasing the long-term pipeline for metal and mining projects, enhancing production, lowering costs, strengthening safety, enhancing stakeholder support, reducing environmental footprint, facilitating open and transparent markets, and others. Preference is given to First Nations, Inuit, or Métis students of Canada. Goldcorp is a senior gold producer based out of Vancouver. The company has six mines and four development projects, employing over 15,000 people across the Americas. The award is made on the recommendation

of the Faculty of Applied Science, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First award available in the 2018/19 winter session.)

Goldcorp Women in Mining Engineering Award

A \$20,000 award is offered annually by Goldcorp to a female student enrolled in the Bachelor of Applied Science program in Mining Engineering. The recipient of this award will demonstrate academic excellence, disruptive thinking, and leadership skills inspiring the next generation of global mining innovators. Goldcorp is a senior gold producer based out of Vancouver. The company has six mines and four development projects, employing over 15,000 people across the Americas. The award is made on the recommendation of the head of the Department of Mining Engineering. (First award available in the 2018/19 winter session.)

Minerva BC Champions for Women in Engineering Bursary

Bursaries totalling \$10,000 are offered annually, through a partnership between the Minerva Foundation for BC Women and the Faculty of Applied Science, to support undergraduate female engineering students in any department or program who demonstrate financial need. Preference will be given to (1) First Nations, Inuit or Métis women of Canada or (2) single mothers. The Minerva BC Champions include the following individuals and their families, who have made the elevation of women in leadership through education the hallmark of their legacy: Jacqueline Frewin, Janet Fleck Ladner, Jocelyne Bourassa, Randy Sung, Suzanne Lee, Thomas Kinloch, the Harrison Buitenhuis family, and the Rix family. The bursaries are adjudicated by Enrolment Services. (First Award Available 2018/19 Winter Session).

PREVIOUSLY APPROVED AWARDS WITH CHANGES IN TERMS OR FUNDING SOURCE

7332 – Peter M. Lansdorp Bursary

Current Award Description

A bursary of \$12,200 has been endowed by Dr. Peter M. Lansdorp through his company, Camosun Biotechnology Inc., for a student in any year or faculty who is in need of financial assistance to begin or continue his or her post-secondary education.

Proposed Award Description

A bursary of Bursaries totalling \$12,200 has been endowed have been made available through an endowment established by Professor Dr. Peter M. Lansdorp through his company, Camosun Biotechnology Inc., for a students in any year or Faculty who is are in need of financial assistance to begin or continue his or her their post-secondary education, in amount(s) no less than the recipients' tuition for the year.

Rationale for Proposed Changes

At the request of the donor, the award description is being revised to reflect Dr. Lansdorp's preference to provide bursaries that are no less than one year's tuition to benefit multiple students as the principal of the endowment continues to grow.

3290 – Medical Microbiology Prize**Current Award Description**

A \$800 prize has been endowed by the Division of Medical Microbiology, Faculty of Medicine. This prize is offered to the student attaining the highest standing in FMED 401 (Host Defense) and is made on the recommendation of the Department of Pathology and Laboratory Medicine.

Proposed Award Description

A \$800 prize has been endowed by the Division of Medical Microbiology, Faculty of Medicine. The prize is offered **awarded to the MD** student attaining the highest standing in ~~FMED 401 (Host Defense)~~ **medical microbiology** and is made on the recommendation of the Department of Pathology and Laboratory Medicine.

Rationale for Proposed Changes

In collaboration with the Faculty of Medicine and Enrollment Services, the criteria for student selection has been revised to account for changes to curriculum as FMED 401 no longer exists.

5143 – Go Global Self-Initiated Research Award**Current Award Description**

Awards valued up to \$2,000 each are offered to domestic undergraduate UBC students participating in recognized student activities through self-initiated international research placements arranged by Go Global. Awards are made on the recommendation of the Go Global International Learning Programs in consultation with Enrollment Services.

Proposed Award Description

Awards valued up to \$2,000 each are offered to domestic ~~undergraduate~~ **and international** UBC students participating in recognized student activities through self-initiated international research placements arranged by Go Global. Awards are made on the recommendation of the Go Global International Learning Programs.

Rationale for Proposed Changes

The award description is being updated to reflect that this award is available to domestic and international undergraduate and graduate students.



28 February 2018

To: Vancouver Senate

From: Senate Curriculum and Admissions Committees

Re: Bachelor of Science in FRE (approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Land and Food Systems and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Bachelor of Science in Food and Resource Economics (FRE) degree program and its associated new courses be approved.”*

Respectfully submitted,

Dr. Peter Marshall, Chair, Senate Curriculum Committee
Dr. Carol Jaeger, Chair, Senate Admissions Committee



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

FACULTY OF LAND AND FOOD SYSTEMS

New program and new courses

Bachelor of Science in Food and Resource Economics; FRE 326 (3) Empirical Methods for Food and Resource Economics; FRE 426 (3) Econometric Analysis for Food and Resource Economics; FRE 394 (3) Government and Business; FRE 497 (2–6) c Directed Studies in Food and Resource Economics; FRE 499 (6) Undergraduate Thesis

The University of British Columbia

Faculty of Land and Food Systems

A B.Sc. Degree Proposal:

Food and Resource Economics

January 8, 2017

This curriculum proposal was approved by the Faculty of Land and Food Systems (LFS)
on October 18, 2017

Executive Summary

The proposed 121 credit B.Sc. in Food and Resource Economics (FRE) with a September, 2019 start date will be managed by the Food and Resource Economics (FRE) group within the Faculty of Land and Food Systems (LFS) at the Vancouver campus of the University of British Columbia (UBC). This group currently consists of five tenure-track applied economists and three long-term teaching staff. Prior to the restructuring of the Faculty of Agricultural Sciences 15 years ago, the FRE Group was the Department of Agricultural Economics, and it managed the Agricultural Economics major within the B.Sc. Agriculture program. Ten years ago the FRE group launched a 12 month (professional) Masters of Food and Resource Economics (MFRE) program. On-going growth in the MFRE program (currently 40 students) reveals strong student interest in issues associated with food and resource economics. The results from a recent survey of UBC undergraduate students and potential employers of B.Sc. (FRE) graduates strongly suggest that the time is right to launch a new undergraduate degree at UBC in the area of food and resource economics.

The B.Sc. (FRE) degree can be best described as a degree in applied economics with a science-based interdisciplinary component and an option to include a business and resource management specialization. Because students will have the option to specialize in business management and use their electives to take courses in food science, the existing Food Market Analysis major (Food Nutrition and Health program) will become largely redundant and will therefore eventually be discontinued.

Issues concerning the production, marketing and consumption of food continue to grow in complexity. Slowing rates of agricultural productivity, utilization of genetically modified organisms, climate change and depletion of ground water are examples of an increasingly complex production environment. The goal of the proposed program is to provide UBC students with the opportunity to learn the principles of economic theory, quantitative methods and business and resource management in the context of agri-food supply chains, natural resource systems and agri-food environmental impacts. Three important components of the proposed program are empirical analysis of small and large data sets, policy impact assessment and a science-focused interdisciplinary perspective. More generally, the program is well aligned with UBC's TREK 2010 Strategic Plan, which commits to ensuring that students "will have developed strong analytical, problem solving and critical thinking abilities; will have excellent research and communication skills; and will be knowledgeable, flexible and innovative."

Students in the proposed program will take courses from a number of UBC units including the Faculty Land and Food Systems (LFS), the Vancouver School of Economics (VSE) and the Sauder School of Business. All but two of the main FRE courses that are included in the proposed program are already being successfully offered at UBC, which means that the degree program can be launched with an initial limited enrolment (e.g., 15 students per year). This is important because currently there is limited space in several of the program's required and restricted elective VSE courses. Space is also limited in most of the COMM courses for non-Commerce students.

UBC's new School of Public Policy and Global Affairs offers a Masters degree with a strong policy component. Having a strong policy-focused B.Sc. (FRE) program at UBC will further enhance UBC's reputation as a place to study the policy process. It is also anticipated that some graduates from the proposed program will choose to continue their studies in the School of Public Policy and Global Affairs.

1. Introduction

The University of British Columbia is a comprehensive research-intensive university, consistently ranked among the 40 best universities in the world. Since 1915, it has created an exceptional learning environment that fosters global citizenship, advances a civil and sustainable society, and supports outstanding research.

UBC's Faculty of Land and Food Systems (LFS) has earned a national and international reputation in the general areas of sustainable crop and livestock production systems and food and nutritional sciences. Cutting across these areas of expertise is food and resource economics. The current proposal aims to better leverage this expertise through the creation of a new B.Sc. in Food and Resource Economics. The proposed B.Sc. (FRE) program is highly consistent with the LFS mission statement:

"The UBC Faculty of Land and Food Systems uses student-centered learning to educate new generations of scientists equipped to solve the most fundamental issues faced by society — those focused around human health, a sustainable food supply and the responsible use of finite land and water resources. To that end, Faculty initiatives foster and support: research excellence, innovative active learning environments, strong community connections, and global and local collaborations."

The Food and Resource Economics (FRE) group consists of five tenure track applied economists and three non-tenure track teaching staff. The group's website (<http://www.landfood.ubc.ca/research/fre-group/>) contains the following description:

"The Food and Resource Economics (FRE) group (formerly Agricultural Economics) uses rigorous tools of economic analysis to examine applied problems in the general area of food markets (e.g., trade and regulated markets, food demand analysis, food safety and biotechnology) and the economics of renewable resources and the environment (e.g., trade and the environment, environmental policy)."

In 2007-08 the FRE group developed and launched a 12-month (professional) Masters of Food and Resource Economics (MFRE) program. This highly successful program, which currently has a cohort of 40 students, nicely demonstrates the group's strong track record in curriculum development and delivery. Within the LFS Food, Nutrition and Health (FNH) program, the FRE group is responsible for the Food Market Analysis major, which is designed for food science students who desire expertise in agri-food markets and business management. The group also serves a small number of students who have chosen the food and resource economics concentration in the LFS Global Resource System (GRS) program. The group was previously responsible for a Natural Resource Economics major in the LFS Agroecology degree program but this major was discontinued after the Agroecology degree program transformed into the current Applied Biology program in 2009. Prior to the transformation of the Faculty of Agricultural Sciences to the Faculty of Land and Food Systems in the early 2000s, the FRE group was the Department of Agricultural Economics. The BSc in Agriculture (Agricultural Economics major) that was offered by this department had a four-year enrollment that typically ranged between 60 and 75 students.

2. Program Rationale

2.1 Introduction

With the discontinuation of the long-standing Agricultural Sciences departments in the early 2000s and the simultaneous creation of three new degree programs (Agroecology; Food, Nutrition and Health; and Global Resource Systems) the Food and Resource Economics (FRE) group eliminated most of its old

course offerings and launched a series of new courses that were designed to be attractive to students across UBC. This strategy has been successful as can be seen in the table below, which reports 2014/2015 – 2017/2018 enrollment statistics for the suite of Food and Resource Economics (FRE) courses. Enrollment in each course is generally strong, and enrollment across all courses has been trending upward. UBC undergraduate students are clearly interested in courses that feature food and resource economics.

Enrollment in FRE Courses for the 2016-2017 Academic Year

| Course | Course Name | 2014 2015 | 2015 2016 | 2016 2017 | 2017 2018 |
|---------|---|--------------|--------------|--------------|--------------|
| FRE 295 | Managerial Economics (cross listed with COMM 295) | 15 | 11 | 23 | 20 |
| FRE 302 | Small Business Management in Agri-food Industries | n/a | 60 | 55 | 59 |
| FRE 306 | Introduction to Global Food Markets* | 120 | 106 | 72 | 71 |
| FRE 340 | International Agricultural Development | 67 | 66 | 63 | 76 |
| FRE 374 | Land and Resource Economics (cross listed with ECON 374) | 35 | 25 | 54 | 65 |
| FRE 385 | Quantitative Methods for Business and Resource Management | 22 | 14 | 13 | 29 |
| FRE 420 | The Economics of International Trade and the Environment | 38 | 36 | 35 | 32 |
| FRE 460 | Economics of Food Consumption | 39 | 23 | 50 | 53 |
| FRE 490 | Current Issues in Food and Resource Economics | 34 | 28 | 25 | 31 |
| | Total | 370 | 369 | 390 | 436 |

* Enrollment was purposely capped at 70 seats beginning in 2016 – 2017.

Most of the students in the FRE courses listed in the above table are non-majors. Indeed, over the past four years an average of 15 students graduated from UBC with a Food Market Analysis major and just one or two GRS students graduated with a food and resource economics concentration. The results of a recent student survey, which are presented in the next section, reveal that for the current set of courses non-majors are approximately evenly split between LFS students and students from various other UBC faculties. The significant and growing popularity of FRE course offerings amongst non-majors provides strong evidence that the B.Sc. (FRE) program is likely to be in comparatively high demand.

The popularity of FRE courses at UBC is not surprising given the array of interesting and important topics that are covered in these courses. For example, FRE 302 provides students with capabilities for developing business plans for new products and services in the agri-food sector. Several recent graduates of FRE 302 have went on to successfully launch their own businesses or are currently working in the marketing divisions of major food manufacturers. In FRE 306 students learn about global food supply chains, including the role of trade and the impact of complex food policies. FRE 340 has a long history of being popular with students because of its focus on international development issues. The growing awareness of natural resource sustainability largely explains the popularity of FRE 374. Students who are interested in operations management are attracted to FRE 385. Student enrolment in the recently-created FRE 460 grew rapidly over the past five years because of its topical nature and high degree of policy relevance (e.g., obesity, food labels and certification programs).

Based on the experiences at other Canadian and U.S. universities, a well structured undergraduate program in agribusiness or agricultural economics is in high demand because graduates have attractive employment opportunities including agri-finance institutions, agri-business firms and food marketing agencies. Students who wish to pursue advanced training in food and resource economics have excellent graduate school options and subsequently many additional employment opportunities, including private sector firms in agri-food supply chains, agri-food and agri-environmental consulting firms and research units in government agencies. The proposed B.Sc. (FRE) program will provide students with an assortment of skills that are highly sought after. These skills include the ability to rigorously analyze large data sets (e.g., retail scanner, satellite land use), use econometrics to identify causal economic relationships and conduct effective cost – benefit and other types of policy analysis.

2.2 Student and Market Assessment

2.2.1 Student Assessment

In September of 2017 students from FRE 306, 340, 374, 490 and LFS 350 were surveyed in order to assess their perspective of the proposed degree program (note that LFS 350 is a six-credit LFS core course). The enrollment in these five classes as of September 24 was 380 students. A total of 258 useable responses were collected, which implies a response rate of 68 percent. Students were provided with a short description of the proposed program and then asked the following question:

Suppose the proposed BSc in Food and Resource Economics program was available when you were applying to UBC and making decisions about which faculty and which major to apply for. Indicate the likelihood that you would have applied for admission to this program.

Across all 258 respondents, 41 students (15.9%) indicated they would very likely consider the program as a first choice (i.e., option 1) and 128 students (49.6%) indicated they would very likely or somewhat likely consider the program as a first choice (i.e., options 1 and 2). Only 25 students (9.7%) of the respondents indicated that they would be unlikely consider the program as any choice (i.e., option 6). The number of responses indicating “very likely” or “somewhat likely” was similar across the five faculties with the exception of Commerce (29.4% as compared to approximately 50% for the other faculties). Within the cohort of Food Market Analysis majors, all but two respondents indicated that they “very likely” or “somewhat likely” would have chosen the proposed program as their first choice.

Full details about the September, 2017 survey of students can be found in Appendix A.

2.2.2 Employment Prospects

The private and public sectors of British Columbia are increasingly demanding professionals who have an integrated knowledge of food systems, who have strong quantitative skills (e.g., capable of analyzing large and complex data sets) and who have specific skills such as operations management and capabilities in private and public cost – benefit analysis. Graduates from the B.SC. (FRE) program will have many of these qualifications because the learning outcomes of the program emphasize quantitative and problem solving skills, the interconnections within agricultural and agri-food systems and the connection between food systems and environmental outcomes.

Consulting firms are in need of employees who have a good understanding of agri-food systems including international trade agreements, Canadian supply management programs and CFIA regulations. These firms also require graduates who have strong survey design and data analysis skills. The consulting

sector is one of many examples of how the proposed program will address the labour market needs of British Columbia.

A recent report by the Toronto Star (<https://www.thestar.com/life/coursesforcareers/2017/03/13/big-opportunities-in-big-data.html>) describes a critical shortage of employees with the ability to work with big data. Specifically, by 2018 the predicted shortage is “between 10,500 and 19,000 professionals with data and analytical skills, and 150,000 with deep analytical literacy”. Students in the B.Sc. (FRE) program will have a minimum of three courses in statistical analysis and econometrics. Graduates of the program who go on to graduate training in applied economics will typically become proficient in coding statistical software to manipulate and analyze large data sets such as retail scanner data and satellite land use data.

Table 4 of a report on labour market imbalances by the federal agency, Canadian Occupational Projection System (COPS), (<http://occupations.esdc.gc.ca/sppc-cops/l.3bd.2t.1ilshtml@-eng.jsp?lid=60&fid=45&lang=en>) identifies sectors that are expected to experience critical labour shortages over the 2015 – 2024 period. Prominent in the list is business management consulting. With a recent upheaval in international trade agreements and growing consumer concern regarding food product labeling, animal welfare, GMO, etc., it follows that the demand for business management consultants with knowledge of agri-food supply chains will steadily grow. Graduates from the proposed program, and especially those who take graduate training in programs such as the Masters of Food and Resource Economics (MFRE), are well positioned to fill this demand.

Simon Fraser University has a website devoted to facts about the environmental sector (<https://www.sfu.ca/fenv/coop-education/environmental-sector-facts.html>). The website notes that an estimated 318,000 organizations have at least one environmental employee, and 41 percent of environmental consulting firms indicated that their staff require more environmental skills. With a focus on the interface between food production and environment, the proposed B.Sc. (FRE) program will provide students with a unique environmental skill set.

2.2.3 Specific Examples of Employment Opportunities

Potential employers include government agencies such as Statistics Canada, private sector banks, Farm Credit Canada, consulting firms, agricultural marketing boards, local agencies such as Farm Folk City Folk and import/export agri-food firms. These employers will be looking to hire economists and/or those with business (marketing and finance) degrees to work on specialized projects. A bachelors or masters' degree in economics or business will be a minimum requirement. A B.Sc./M.Sc. in Food and Resource Economics will be particularly attractive to these firms.

One of the sessional lecturers with the Masters of Food and Resource Economics (MFRE) program is a loans manager with TD Bank (Agricultural Services) in Abbotsford, B.C. When told about the proposed degree program she noted:

“I wanted to comment that there is a real shortage of people with agriculture industry knowledge. We are currently looking for 3 people. Also, communication skills and the ability to “fit” in with the team, is a large part of who ends up getting hired.”

2.2.4 Survey of Potential Employers

In late November of 2017 an on-line survey was created and sent to 46 potential employers of B.Sc. (FRE) graduates, and by the end of the year 27 completed surveys had been received (the response rate was 59 percent). The potential employers (private sector firms, government agencies, industry associations, and non-profit agencies) who received the request were largely compiled from a database that is associated with the Masters of Food and Resource Economics (MFRE) summer program. The survey instrument and a detailed presentation of the survey results can be found in Appendix B.

The survey begins by describing the proposed program and then asks questions regarding hiring history and hiring intentions. The main part of the survey is devoted to asking respondents to rate the importance of alternative general training streams (e.g., applied economics and business management), specific skills that graduates of the B.Sc. (FRE) program will have (e.g., statistical analysis and analysis of industry competitiveness) and specific skills that program graduates could obtain via elective courses (e.g., geographic information systems and a second language such as Mandarin, French or Spanish). The survey ends with specific questions such as how a B.Sc. (FRE) job applicant is likely to compare with other applicants such as those with degrees in Commerce or straight economics.

The survey results provide strong support for the creation of a B.Sc. in Food and Resource Economics at the University of British Columbia. Responses to the specific questions, and opened-ended responses both reveal the need for new employees to have an integrated knowledge of food systems, strong data analysis skills, an ability to communicate and collaborate effectively and an in-depth understanding of business management principles.

Some specific results are as follows. Out of the 27 respondents, 21 had hired a recent university or college graduate within the last 5 years, and 25 indicated that they will likely hire a recent graduate within the next three years. When asked if specific skills were quite important or very important, 23 agreed for the case of data analysis in spreadsheets, 16 agreed for the case of cost-benefit analysis, 15 agreed for the case of business planning, and 15 agreed for the case of industry competitiveness. When asked how competitive a B.Sc. (FRE) job applicant is likely to be when ranked against an applicant with a business degree or a general economics degree, 17 out of the 27 potential employers indicated moderately competitive or highly competitive.

2.3 Program Description and Specifications

2.3.1 Mission

The mission of the proposed program is consistent with the mission of the Faculty of Land and Food Systems, which was stated above. At a general level, the B.Sc. (FRE) will “foster and support research excellence, innovative active learning environments, strong community connections, and global and local collaborations.” At a more specific level, the proposed program will provide its graduates with an interdisciplinary perspective and strong analytical and collaborative problem solving skills.

2.3.2 Goal of the Proposed Program

The goal of the proposed program is to provide UBC students with the opportunity to learn the principles of economic theory and business and resource management, and to apply these principles in the context of agri-food supply chains, relevant natural resource systems (e.g., soil and water) and agri-food environmental impacts. Three important components of the proposed program are empirical analysis of small and large data sets, policy impact assessment and development of a science-focused interdisciplinary perspective.

2.3.3 Program Learning Outcomes

Students who complete the requirements of the proposed program will be able to:

- Apply the principles of micro-economics to an assortment of relevant applications (e.g., commodity prices, international development, international trade, and natural resource and environmental externalities)
- Utilize the principles of business planning and other management methods to assess the feasibility of launching new products and services in agri-food markets
- Demonstrate an understanding of the principles and applications of statistical and econometric analysis, especially when applied to problems in food and resource economics
- Describe important features of consumers' demand for food, agri-food markets and relevant natural resources such as soil and water
- Describe the widely acknowledged environmental impacts of food production and marketing
- Demonstrate capabilities in measuring policy impacts, especially in the context of international development projects

The calendar descriptions and learning outcomes/topics of the existing FRE courses that will be utilized in the proposed B.Sc. (FRE) program can be found in Appendix C.

2.3.4 Degree Program Requirements

The proposed 121 credit, second-year entry B.Sc. in Food and Resource Economics requires 9 credits of Vancouver School of Economics (VSE) micro and macro theory courses (Econ 101, 102, 301) and 13 credits of the Faculty of Land and Food Systems core courses (LFS 100, 250, 252 and 350). Students will choose their restricted electives from the Vancouver School of Economics (VSE), the Sauder School of Business and various other UBC departments (e.g., Statistics, Forest Resources Management and Geography). In addition, students will have 100 and 200 level science requirements, a quantitative methods requirement and a requirement to take an "in-house" suite of two statistics/econometric courses. Most importantly, students will choose FRE topic courses with the option to achieve either depth in one of three topic areas or breadth across all three topic areas. The FRE group has strong expertise in the three topic areas, leveraged significantly by their extensive teaching in the Masters of Food and Resource Economics (MFRE) program.

The 121 credits will normally be spread over four years of study. Students will enter the program in year 2 and will typically be admitted with a minimum of MATH 102/103 and ECON 100 (other year one requirements such as LFS 100, LFS 150 and BIOL 121, although desirable to have at the beginning of year 2, can be made up after entry into the program). In Year 2 of the program students will take two required FRE courses, a pair of LFS core courses including a course on introductory statistics, a two-course sequence of intermediate microeconomic theory, a 200-level science-based course from the Applied Biology or Food, Nutrition and Health programs and one restricted and one unrestricted elective. Year 3 consists of one required FRE core course, a suite of FRE and non-FRE topic courses, the final LFS core course, an introductory empirical methods course (offered by the FRE group), a quantitative methods course and a suite of restricted and unrestricted electives. In year 4 students will take an econometric methods course (offered by the FRE group), a second quantitative methods course and an assortment of FRE and non-FRE topic courses, restricted electives and unrestricted electives. Students who choose to specialize in management will take most of the Commerce courses that are available to non-Commerce students.

When choosing the FRE topic courses students can focus their classes in one of three areas or obtain breadth by selecting courses from across the three areas. The three areas of study are: (1) Food Markets and Development; (2) Land, Resources and Environment; and (3) Food and Resource Management.

See the Appendix D for a full list of the courses that are included in the formal B.Sc. (FRE) curriculum change form.

2.3.5 Admission Requirements

Students can apply to the B.Sc. (FRE) program after completing 24 credits of first-year university-level courses. To be considered, students are required to have a minimum academic standing of at least 70% (or 2.80 on a 4-point scale). Achievement of this minimum, however, does not guarantee admission. Admission is determined by the Faculty's capability to accommodate students in this program and the student's overall suitability. To help assess suitability students must submit with their application a 500 word (maximum) Letter of Intent which addresses the following: a) why the student wishes to enroll in the Food and Resource Economics program; b) the student's career aspirations; and c) any personal, volunteer, or work experience.

The first-year program course requirements will not be treated as specific admission requirements. In other words, the first-year course requirements can be made up after a student has been admitted into the B.Sc. (FRE) program. This qualification is particularly relevant for the non-economics courses (LFS 100, LFS 150 and BIOL 121), for macro-economics (ECON 102) and for the second of the two required MATH courses (MATH 104/105). Based on the assessment of the 500 word Letter of Intent, acceptance into the program is unlikely for those students who do not have ECON 101 and MATH 102/103 when applying for admission into the program.

2.3.6. Program Management and Assessment

The proposed degree program will be administered by the Faculty of Land and Food Systems (LFS) Undergraduate Office. An FRE faculty members will serve as the academic program advisor.

2.4 Contribution to UBC Mandate and Strategic Plan

UBC's TREK 2010 Strategic Plan commits to ensuring that students "will have developed strong analytical, problem solving and critical thinking abilities; will have excellent research and communication skills; and will be knowledgeable, flexible and innovative." Each of these attributes are examined in turn.

2.4.1 Strong analytical skills

Students in the proposed program will be required to take a suite of three courses in statistical and econometric analysis with applications to the food and resource sectors. Students will also be required to take two quantitative methods courses in areas such as operations management, price forecasting and GIS mapping. Most of the 300 and 400 level FRE and Vancouver School of Economics (VSE) courses have strong analytical components (e.g., interpreting graphs and solving optimization problems).

2.4.2 Strong problem solving and critical thinking abilities

The proposed program will emphasize problem solving and critical thinking, especially during the third and fourth year. Indeed, many of the 300 and 400 level courses that are offered by the Food and Resource Economics Group, the Vancouver School of Economics (VSE) and the Sauder School of Business incorporate into student assignments and term papers scenarios involving applications of economics and business management. Students will utilize mathematical and statistical analysis and logical thinking when answering these assigned questions and writing term papers.

2.4.3 Excellent research and communication skills

Students in the proposed program will all take LFS 150, which is a substitute for a 100 level course in English. The calendar description for LFS 150 notes that “This course introduces communicating concepts of food systems and links to human and environmental health through writing. The elements of argumentation, evaluating evidence and searching for and citing references to back up claims are key.” Many of the 300 and 400 courses in the proposed program require students to work in groups and make presentations. These activities promote strong written and verbal communication skills. Students who are particularly interested in research will be encouraged to take one or two directed studies courses and use the learning outcomes from these courses to write a six credit undergraduate thesis.

2.4.4 Knowledgeable, flexible and innovative

An important feature of all of the courses that are offered by the Food and Resource Economics group is that they are highly topical. Instructors generally make it a priority to incorporate current events such as the current NAFTA negotiations and new ideas about renewable energy into their lectures and assigned readings. This attentiveness to current events will ensure that graduates of the proposed program will be knowledgeable about the critical issues in the food and resource economics sectors when they seek employment. Graduates will also be flexible and innovative in their approach to problem solving because throughout the proposed program students will be expected to work on complex problems in teams. In these situations flexibility and innovativeness are necessary for success.

2.4.5 Evidence of instructor capabilities

The Food and Resource Economics (FRE) group who will manage the proposed B.Sc. (FRE) degree program has demonstrated a high level of success in providing students at the graduate level (Masters of Food and Resource Economics) with the types of abilities and skills that are described in the TREK 2010 Strategic Plan.

The success of the Masters of Food and Resource Economics (MFRE) program is highlighted in a recent (spring, 2017) alumni survey. The survey was distributed to 120 graduates of the program who received their degrees between 2010 and 2015. Out of the 57 students who answered the question about their current employment status, 51 are currently employed and the remaining 6 are in graduate school. For these students, 72 percent found employment within 3 months. Regarding the sector of employment, approximately 60 percent of the MFRE graduates are working in the private sector and the remainder are working for government, NGOs or an educational institution. The specific sectors of employment include agricultural services, the food industry and the non-agriculture financial services. Specific positions included Analyst, Manager/Coordinator, Accountant and Consultant. The skill which is most frequently used is quantitative analysis, followed by business management and applied economics.

The annual salary for those alumni who reported their compensation was in the range of \$45,000 to \$54,999. These values are representative compensation for someone who has worked for 1 – 2 years after graduation.

2.5. Relationship to Established Programs

2.5.1 The University of British Columbia

Students in the proposed program will take a suite of core courses and several restricted electives from the high-profile Vancouver School of Economics (VSE). Utilizing the VSE in this way implies an effective use of existing UBC resources and faculty expertise. VSE students commonly take 300 and 400 level FRE

courses as electives (e.g, FRE 306, 340 and 460), presumably because applications of economics to food supply chains and relevant natural resource and environmental systems (e.g., soil and water) are viewed as interesting and important, and are not available in the existing suite of VSE courses. The B.Sc. (FRE) program is likely to be well suited to the career goals of a subset of UBC students who would otherwise obtain a BA in Economics.

UBC's innovative Bachelor + Master of Management (B+MM) Dual Degree is currently available to students in all undergraduate programs of the Faculty of Land and Food Systems (LFS) (www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,909,0). A relevant qualification that is specified in the calendar is as follows:

"Students who are in the Food Market Analysis Major as part of the Dual Degree Program Option cannot take COMM 329, COMM 398, COMM 457, COMM 458, COMM 465, COMM 473 or COMM 493, due to significant content overlap with the Masters of Management required courses."

After the proposed B.Sc. (FRE) degree has been formally approved a new proposal will be created that will allow B.Sc. (FRE) students to also enroll in a B+MM Dual Degree program. The new proposal will make it clear that this dual degree option will typically not be useful for those students who choose to specialize in Food and Resource Management in the B.Sc. (FRE) program for the same reason why it is not currently useful for students in the current Food Market Analysis major (see above).

UBC's new School of Public Policy and Global Affairs offers a Masters degree with a strong policy component. Having a strong policy-focused Food and Resource Economics program at UBC will further enhance UBC's reputation as a place to study the policy process. Further, it is anticipated that some graduates from the proposed program will choose to continue their studies in the School of Public Policy and Global Affairs.

2.5.2 Other Universities in British Columbia

All universities in British Columbia offer undergraduate programs in economics. Students in these programs can typically take courses in natural resource and environmental economics. The proposed program is unique in its focus on the economics of agri-food markets. Even in the seemingly overlapping areas of resource and environmental economics, the proposed program is unique because it will primarily focus on natural resources and the environment associated with agri-food systems (e.g., nutrient contamination of ground water). Similarly, the business component of the proposed program will focus on entrepreneurship in the context of food product development.

2.6. Target Students

The Food and Resource Economics (FRE) group will target high achieving students, many of whom would choose a BA in Economics or a Global Resource System major in the Faculty of Land and Food Systems (LFS) in the absence of a B.Sc. (FRE) program option. Applicants are expected from first year UBC students and from students from other university and colleges who are transferring to UBC after completion of their first year.

2.6.1. Enrolment Predictions and Capacity

As noted above, most of the courses that will comprise the proposed program are already being offered at UBC. One of the new courses (FRE 394) will be created by cross-listing it with an existing course in the Sauder School of Business (COMM 394). The topics covered in COMM 394 (Government and Business) are well suited for students in the proposed degree program. Cross listing is necessary because COMM

394 is only available to Commerce students. Two of the remaining four new courses are a Directed Studies (FRE 497) and an Undergraduate Thesis (FRE 499). The remaining two courses are the “in-house” empirical methods (FRE 326) and econometric applications (FRE 426), which will be a mandatory sequence for students majoring in Food and Resource Economics. Due to the high demand for statistics and econometric courses that offered by the Vancouver School of Economics (VSE) it is anticipated that FRE 326 and 426 will attract a sizeable number of non-majors. This means that all FRE courses will have a sustainable enrollment even if initially only a comparatively small number of students choose to major in the proposed B.Sc. (FRE) program.

The capacity of the proposed degree program will be initially restricted to ensure that the required and restricted elective ECON courses can accommodate the extra demand. ECON 325 and 326 are typically over-subscribed and this over-subscription is one reason why the equivalent courses (with topical applications) will be taught “in house” rather than by the Vancouver School of Economics (VSE).

3. Program Resources

3.1 Program funding and budget

The proposed B.Sc. (FRE) program can be launched with little direct cost. Food and Resource Economic (FRE) group members are expected to volunteer to supervise students who taking FRE 497 (Directed Studies) or FRE 499 (Undergraduate Thesis). This means that it is only FRE 326 and FRE 426 that will require funding for instructors and teaching assistants. It is anticipated that this additional cost for the Faculty of Land and Food Systems (LFS) will be partially or fully offset by new tuition revenue that will be generated by international students who specifically come to UBC to enrol in the B.Sc. (FRE) program or who take FRE 326 and 426 as elective courses.

3.2 Space

Other than the usual restrictions on class-room size and lack of availability of classrooms during peak periods, there are no space implications associated with the proposed program.

3.3 Library

The launch of the proposed Food and Resource Economics program has no significant implications for library resources.

3.4 Qualified Faculty

The 300 and 400 level FRE courses that are central to the proposed B.Sc. (FRE) program will be taught by five tenure track members of the Food and Resource Economics (FRE) group and three non-tenure track teaching staff. The five tenure track instructors include two full professors, two associate professors and one assistant professor. With the exception of the assistant professor who has not yet taught at UBC, the tenure track instructors have many years of teaching experience, and all are currently teaching in the Masters of Food and Resource Economics (MFRE) program. One of the non-tenure track teaching staff, who recently was formally appointed as a UBC 12 month lecturer, has 20 years of sessional instructing experience at UBC. A second non-tenure track sessional lecturer has taught many undergraduate and graduate courses at both UBC and Simon Fraser University. The third sessional lecturer specializes in the economics of international development with a special emphasis on policy impact assessment.

Appendix A: Student Survey

Background

When proposing a new undergraduate degree at UBC it is important that undergraduate students be consulted. This consultation typically includes soliciting student input regarding the structure of the program and the types of new courses that should be included in the course offerings. For this current program proposal there was limited options for utilizing student input regarding program structure and course offerings. This is because a high degree of flexibility has been incorporated into the program's structure, and the two new courses (statistical methods and econometric applications) are integral to the program. The degree of flexibility is high because beyond year one other than being required to take the Faculty of Land and Food Systems (LFS) core courses and two economics core courses, students have a great deal of flexibility when choosing FRE courses, quantitative methods and science electives, and restricted electives from the Vancouver School of Economics (VSE) and the Sauder School of Business.

Survey Sample

A September, 2017 (UBC Fluid) survey was used to gauge undergraduate student interest in the proposed degree program. The sample consisted of students from FRE 306, 340, 374, 490 and LFS 350 (note that LFS 350 is a six-credit LFS core course). Sampling these students was an effective way to sample students outside of the home faculty of the proposed program because these courses are populated with students from a number of different UBC faculties. Note that FRE 374 is cross-listed with ECON 374, and the majority of students in this cross-listed course are from the Vancouver School of Economics (VSE). This means that the statistics involving VSE students which are presented below are not representative of all VSE students but rather those who have self selected into FRE 374 ("Land Economics").

The enrollment in the five classes mentioned above was 380 students as of September 24. A total of 258 useable responses were collected from the on-line survey, which implies a response rate of 68 percent. The distribution of respondents broken down by Faculty is as follows. The faculty with the most respondents is LFS (121, 46.9%), followed by Arts (103, 39.9%), Commerce (17, 6.8%), Forestry (13, 5.0%) and Science (4, 1.5%). Of those respondents who reside in the Faculty of Land and Food Systems (LFS), 91 students (35.3%) are in the Food, Nutrition and Health (FNH) program, 20 students (17%) are in the Global Resource Systems (GRS) program and 10 students (8%) are in the Applied Biology (APBI) program. Of those respondents in the FNH program, 31 (34.0%) are in the Food Market Analysis major.

Number of Responses by Student Affiliation

Arts (103 responses)

| | |
|-------------------------|----|
| Economics | 62 |
| International Relations | 15 |
| Other | 13 |
| Math | 7 |
| Political Science | 6 |

Science (4 responses)

| | |
|---------|---|
| Various | 4 |
|---------|---|

Commerce (17 responses)

| | |
|---------------------------------------|----|
| Various | 17 |
| Forestry (13 responses) | |
| Conservation | 13 |
| Land and Food Systems (121 responses) | |
| FNH - Other | 60 |
| FNH - Food Mkt Analysis | 31 |
| GRS | 20 |
| APBI | 10 |
| Total (258 responses) | |

* Classes Surveyed: FRE 306, 340, 374, 490 and LFS 350

Main Survey Question

Students began the survey by reading a moderately detailed description of the proposed program. They were then asked the following question:

Suppose the proposed BSc in Food and Resource Economics program was available when you were applying to UBC and making decisions about which faculty and which major to apply for. Indicate the likelihood that you would have applied for admission to this program.

1. *Very likely to consider the program as a first choice.*
2. *Somewhat likely to consider the program as a first choice.*
3. *Somewhat unlikely to consider the program as a first choice.*
4. *Very unlikely to consider the program as a first choice.*
5. *Likely to consider the program as a second choice.*
6. *Unlikely to consider the program as any choice.*

Main Survey Results

The students in LFS 350 and FRE 306, 340, 374 and 490 are expected to be reasonably representative of the larger pool of students at UBC who are interested in food and resource economics. The survey results (see table below) reveal a strong interest in the proposed program by this representative group of students.

Across all 258 respondents, 41 students (15.9%) indicated they would very likely consider the program as a first choice (i.e., option 1) and 128 students (49.6%) indicated they would very likely or somewhat likely consider the program as a first choice (i.e., options 1 and 2). Only 25 students (9.7%) of the respondents indicated that they are unlikely to consider the program as any choice (i.e., option 6). The number of responses indicating “very likely” or “somewhat likely” to consider the program was similar across the five faculties with the exception of Commerce (29.4% as compared to approximately 50% for the other faculties). Within the cohort of Food Market Analysis majors, all but two respondents

indicated that they “very likely” or “somewhat likely” would have chosen the proposed program as their first choice.

Distribution of Responses by UBC Faculty

| | 1 | 2 | 3 | 4 | 5 | 6 | Total | 1 & 2 - % | 6 - % |
|----------|----|----|----|---|----|----|-------|-----------|-------|
| Arts | 13 | 39 | 11 | 5 | 27 | 8 | 103 | 50.5% | 7.8% |
| Commerce | 1 | 4 | 1 | 1 | 4 | 6 | 17 | 29.4% | 35.3% |
| Forestry | 1 | 8 | 3 | 0 | 0 | 1 | 13 | 69.2% | 7.7% |
| LFS | 26 | 34 | 26 | 9 | 16 | 10 | 121 | 49.6% | 8.3% |
| Science | 0 | 2 | 0 | 1 | 1 | 0 | 4 | 50.0% | 0.0% |
| | | | | | | | 258 | 49.6% | 9.7% |

1. Very likely to consider the program as a first choice.
2. Somewhat likely to consider the program as a first choice.
3. Somewhat unlikely to consider the program as a first choice.
4. Very unlikely to consider the program as a first choice.
5. Likely to consider the program as a second choice.
6. Unlikely to consider the program as any choice.

Of particular importance is the response of students who are currently in a Vancouver School of Economics (VSE) degree program. Out of total of 258 respondents, 61 (23.6%) indicated that they are either BA Economics or BA International Economics students. Out of these 61 students, 8 (13.1%) indicated that choosing the proposed program was *very likely* if the program had been available when they were choosing their major. An additional 25 students (41.0%) indicated *somewhat likely* when asked whether the proposed program would be their first choice. This level of support by VSE students who are currently taking FRE courses as electives provides important justification for the creation of a B.Sc. (FRE) program.

Reasons for Not Choosing the B.Sc. (FRE) as a First Choice

After completing the above question, students were asked the following question:

In the previous question if you chose any of the last four options then please tell us your reasons for not likely choosing the proposed program as your first choice (check all that apply).

I want a science-based degree instead. (22.1%)

I want a more general degree in economics or business. (33.3%)

I do not want a program that has a significant data/statistical component. (13.2%)

The program does not provide enough flexibility for taking other courses I am interested in. (11.6%)

I am reluctant to enter a new program that does not have a proven track record. (10.0%)

Another reason (please specify below). 9.6%

Out of the 130 students (50.4%) who did not choose “very likely” or “somewhat likely” when asked about the proposed program a total of 249 reasons were supplied (each student could select more than one reason). The numbers in parenthesis at the end of each of the previous statements shows the percent of the 249 reasons that are associated with that specific statement. These results reveal that students who are less interested in the proposed program are less interested primarily because they want a science-focused degree or a more general degree in economics and/or business.

Summary and Conclusions

The survey is believed to be reasonably representative of UBC students who have an interest in food and resource economics issues. Particularly important in the sample was the relatively strong representation of students from the Vancouver School of Economics (VSE). With the exception of students from the Sauder School of Business about half of the students who were surveyed were either very interested or moderately interested in the proposed B.Sc. (FRE) degree program. The FRE group is highly confident that the second-year entry restriction combined with strong student demand will allow this group to populate their program with high achieving students, many of whom will likely be interested in graduate education at UBC or other institutions.

New Degree Proposal (5 minute survey)

This survey is intended to gauge student interest in a proposed new degree at UBC. This exciting second-year entry program with limited enrollment will focus on the economics and management of food and natural resource systems. It will provide students with excellent preparation for graduate studies and immediate employment in food supply chains and the agri-business sector.

For your time and completion of the survey, you can choose to be entered in a draw at the end of the survey to win a \$25 Visa gift card. Email addresses will not be linked to responses. The winner of the draw will be contacted on September 30th.

Tell us about your current program of study.

Where did you
complete your first
year of study (e.g.,
UBC, Langara)?

Type here

What faculty are you
currently registered in
(e.g., Arts, Land and
Food Systems)

Type here

What are you currently
majoring in or
intending to major in
(e.g., BA Economics,
BSc in FNH: Food
Science Major)?

Type here

What courses in Food and Resource Economics (FRE) have you taken or are currently taking?

- ☐ FRE 295 Managerial Economics
- ☐ FRE 302 Small Business Management in Agri-food Industries
- ☐ FRE 306 Introduction to Global Food Markets

- ☐ FRE 340 International Agricultural Development
- ☐ FRE 374 Land Economics
- ☐ FRE 385 Quantitative Methods for Business and Resource Management
- ☐ FRE 420 The Economics of International Trade and the Environment
- ☐ FRE 460 Economics of Food Consumption
- ☐ FRE 490 Current Issues in Food and Resource Economics

The Faculty of Land and Food Systems is proposing a new degree: BSc in Food and Resource Economics (FRE)

The degree will provide students with an opportunity to specialize in one of three areas or to achieve breadth by taking courses from all three areas. The areas are:

- Food Markets and Development
- Land, Resources and Environment
- Food and Resource Management

Beginning in Year 2, students will take most of the FRE courses listed in the previous question as well as:

- Land and Food Systems (LFS) core courses (10 credits)
- Empirical courses that use data and statistics to estimate economic relationships (e.g., LFS 252) (9 credits)
- Restricted electives from the Vancouver School of Economics and Sauder School of Business

Why is the BSc in Food and Resource Economics (FRE) being proposed?

Students in the proposed program can achieve job-relevant skills and graduate school preparation by combining economic and management principles with additional courses that focus on:

- Food markets and marketing
- Trade in agri-food products
- Agri-business management
- International development
- Sustainable use of natural resources for food production
- The interface between food production and the environment

The emphasis on empirical analysis will provide students with the skills to analyze small and large data sets, and to develop evidence-based policy recommendations for the complex problems that are inherent in local and commercial food supply chains, and associated natural resource systems.

What are the career options for graduates with a BSc in Food and Resource Economics

(FRE)?

A BSc in Food and Resource Economics would allow graduates to work in:

- Agri-finance (e.g., Farm Credit Canada)
- Agri-business
- Agri-food import-export
- Consulting
- Many other positions in the agri-food and agri-environmental sectors

Many graduates will continue their studies with an applied economics masters degree (e.g., UBC's Masters of Food and Resource Economics) in order to create additional employment opportunities:

- Government agencies and NGOs,
- Marketing boards, commissions and trade associations
- Consulting firms and environmental organizations

Graduates with a dual BSc in Food and Resource Economics and Master of Management would work as managers in the agri-food, agri-finance and import-export sectors, consulting firms and their own businesses.

Suppose the proposed BSc in Food and Resource Economics program was available when you were applying to UBC and making decisions about which faculty and which major to apply for. Indicate the likelihood that you would have applied for admission to this program.

- ☐ Very likely to consider the program as a first choice.
- ☐ Somewhat likely to consider the program as a first choice.
- ☐ Somewhat unlikely to consider the program as a first choice.
- ☐ Very unlikely to consider the program as a first choice.
- ☐ Likely to consider the program as a second choice.
- ☐ Unlikely to consider the program as any choice.

In the previous question if you chose any of the last four options then please tell us your reasons for not likely choosing the proposed program as your first choice (check all that apply).

- ☐ I want a science-based degree instead.
- ☐ I want a more general degree in economics or business.

- ☐ I do not want a program that has a significant data/statistical component.
- ☐ The program does not provide enough flexibility for taking other courses I am interested in.
- ☐ I am reluctant to enter a new program that does not have a proven track record.
- ☐ Another reason (please specify below).

Other Reason for not choosing the program as your first choice (please specify).

type here

Thank you very much for taking the time to complete this survey. Your answers serve as a valuable input into program assessment. Hit the submit button to enter your email address for the \$25 Visa gift card.



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Appendix B: Employer Survey

Background

When proposing a new undergraduate degree at UBC it is important that potential employers of program graduates be consulted. The Food and Resource Economics (FRE) group is fortunate to have contacts with a comparatively large number of potential employers because of the strong connections that exist between its Masters of Food and Resource Economics (MFRE) program and a wide range of firms and agencies, primarily in British Columbia. The sectors are also wide ranging including financial institutions, food manufacturers, consulting firms and various non-profit and government agencies.

Survey Sample

A December, 2017 (UBC Fluid) survey was sent to 46 firms and agencies to assess employment opportunities for B.Sc. (FRE) graduates. By the end of the survey period (December 31, 2017) a total of 27 firms and agencies completed the survey. This 59 percent response rate is reasonably good for an e-mail survey with a relatively short response window. The following table shows frequency of response broken down by sector.

| Sector | Number of Responses |
|--|---------------------|
| Government or municipal (e.g., BC Ministry of Agriculture) | 8 |
| Bank or financial institution (e.g., Van City) | 6 |
| Private enterprise, excluding financial institutions (e.g., Mission Hill Winery) | 6 |
| Other: education; telecommunications | 3 |
| Not-for-profit enterprise (e.g., Columbia Basin Trust) | 2 |
| Consulting firm or individual (e.g., Upland Agricultural Consulting Ltd) | 1 |
| Producer organization (e.g., BC Vegetable Marketing Commission) | 1 |
| Total | 27 |

Respondents were first asked: “Have you hired a recent graduate from a university or college within the past five years (recent grad = three or fewer years since graduation)?” **21 out of 27 respondents indicated “Yes”**. Respondents were then asked: “Are you intending to hire a recent graduate from a university or college within the next three years?” **25 out of 27 respondents indicated “yes”**.

Survey Questions

General Training

The survey provided respondents with a description and examples of the following general training: Applied Economics; Agri-business Management; Statistical analysis; and Interdisciplinary (science) perspective. Respondents were then asked “How important is it that potential hires for your firm or organization have general training in the following areas (refer to descriptions above)?” The following table summarizes the responses.

| | | | | | |
|--|----------|----------|-------|------|----------------|
| | Not very | Somewhat | Quite | Very | Not applicable |
|--|----------|----------|-------|------|----------------|

| | important | important | important | important | |
|-------------------------------|-----------|-----------|-----------|-----------|---|
| Applied Economics | 2 | 10 | 5 | 9 | 1 |
| Agri-business management | 3 | 8 | 6 | 8 | 2 |
| Statistical analysis | 2 | 6 | 8 | 10 | 1 |
| Interdisciplinary perspective | 3 | 10 | 4 | 9 | 1 |

The above results reveal that half or more of the respondents believe that all four types of general training are quite important or very important. Statistical analysis appears to be of particular importance to the potential employers of B.Sc. (FRE) graduates.

Employment Relevant Skills

Respondents were next asked to rank the relative importance of various employment-relevant skills.

- Strong communication (written and verbal) → COMMUNICATION
- Collaborative problem solving methods → COLLABORATION
- Spreadsheet data management → SPREADSHEET
- Survey design and analysis of survey data → SURVEY
- Statistical analysis (e.g., regression, ANOVA) → STATISTICAL
- Creation of a full business plan → BUSINESS PLAN
- Financial ratio analysis → FINANCIAL RATIO
- Analysis of industry competitiveness → COMPETITIVE
- Methods of cost - benefit analysis → COST-BENEFIT
- Methods of hedging -- price risk management → RISK MANAGEMENT

The following table summarizes the responses.

| | Not very important | Somewhat important | Quite important | Very important | Not applicable |
|---------------|--------------------|--------------------|-----------------|----------------|----------------|
| Communication | 1 | | | 26 | |
| Collaboration | 1 | 1 | 7 | 18 | |
| Spreadsheet | | 4 | 11 | 12 | |
| Survey | 5 | 9 | 7 | 4 | |
| Statistical | 8 | 8 | 7 | 4 | |
| Business Plan | 8 | 4 | 9 | 6 | |
| Finance Ratio | 3 | 13 | 6 | 4 | 1 |
| Competitive | 5 | 7 | 9 | 6 | |
| Cost-benefit | 3 | 8 | 8 | 8 | |
| Risk Managmnt | 9 | 8 | 6 | 2 | 2 |

The above results reveal that communication, collaboration and spreadsheet skills are of particular importance to potential employers of B.Sc. (FRE) graduates. Skills in business planning, industry competitiveness and cost-benefit analysis were also deemed as either quite important or very important

by more than one half of the respondents. These results confirm that the proposed B.Sc. (FRE) curriculum is on the right track from an employers' perspective. Equally important, the results will help guide changes in futures B.Sc. (FRE) course offerings.

Elective Courses

The next section of the survey allowed respondents to identify skills that are of value to employers and which BSc (FRE) graduates can gain through elective courses. The following table summarizes the responses.

| | Number of respondents (N = 27) who identified this skill as being important |
|--|---|
| Programming skills (e.g., Word Press, Microsoft Access, R) | 18 |
| Data analytics (e.g., social media impact assessment) | 17 |
| Geographic information systems (GIS) programming | 10 |
| Advanced financial accounting | 9 |
| Detailed knowledge of food safety regulations | 6 |
| A second language such as Mandarin, French or Spanish | 12 |
| Experience studying/living outside of Canada/U.S. | 2 |

The above results reveal that various types of programming and data analysis skills are of particular value to employers. Approximately one third of respondents indicated that they value skills in GIS, advanced financial accounting and a second language such as Mandarin, French or Spanish. For those respondents who chose "Other", three responses that stand out are "Agricultural industry knowledge", "Marketing and market research" and "Environmental impact assessment".

Certified Professional

Respondents were asked how important it is that B.Sc. (FRE) graduates be a member of the British Columbia Institute of Agrologists or have another professional designation such as a Registered Professional Forester (RPF) or a Registered Professional Biologist (RpBio)? The responses are as follows:

Not Very Important (16), Somewhat Important (2), Quite Important (1), Very Important (5) and Not Applicable (3)

These results reveal that a professional designation has a moderate level of importance amongst employers. It is important that this finding be accounted for when students are being advised on course selection.

Comparison with Other Applicants

Respondents were asked the following question: "When compared to applicants with other degrees (e.g., Commerce, Economics) how competitive is an applicant with a BSc (FRE) degree likely to be when applying for a position in your firm/organization?" The responses are as follows:

Not Competitive (2), Somewhat Competitive (5), Moderately Competitive (10), Very Competitive (7) and Not Applicable (3)

These results reveal that out of the 24 respondents to this question, 17 felt that B.Sc. (FRE) graduates would be either moderately competitive or very competitive when ranked against applicants with other degrees such as a Bachelors of Commerce or a Bachelor of Arts (Economics).

Value of Additional Training

Respondents were asked to assess the value of applicants who had both a B.Sc. (FRE) undergraduate degree and a Masters of Food and Resource Economics (MFRE) degree. The responses are as follows:

Not Very Important (6), Somewhat Important (10), Quite Important (5), Very Important (4) and Not Applicable (2)

These results reveal that the B.Sc. (FRE) degree is sufficient for the majority of the potential employers. However, there are a sizeable number who do value the graduate training. Both of these results will be valuable for students who are contemplating the B.Sc. (FRE) program.

Wrap up Question

The last question asked was as follows: "How strongly do you agree or disagree with the following statement? Approving a BSc in Food and Resource Economics is a good strategic decision by UBC and the Province of British Columbia." The responses are as follows:

Strongly Disagree (2), Mildly Disagree (1), Mildly Agree (10) and Strongly Agree (14)

These results reveal overall broad support for the creation of the proposed B.Sc. (FRE) degree.

Comments

Respondents were asked to provide general comments. The more noteworthy comments are as follows:

"Food security is an important local concern that needs to be addressed."

"Training people to support the development of a strong sustainable local food system is imperative."

"There are many jobs available in the agricultural industry including accounting (with firms or for private agribusinesses), finance (with Banks as well as in larger agribusinesses), etc. The agricultural industry is growing, and there is a real shortage of qualified people to fill the positions that are available. By UBC adding this program, it fills a gap that is missing. We recommend this program go forward."

"While the specialized course focus is interesting and provides additional insights when doing analysis some of this can be learned on the job as well. Previous experience in agrifood/seafood is an asset here but experience is defined as on the job, in the field work not course work - so if this is a co-op program it would be more "marketable" and would increase its competitiveness ranking against other econ degrees"

"Bringing together academic and applied practices, and lessons from those practices, is critical in the globalized market place."

"Beyond SQL and before statistical analysis, more exposure to presentation/ data visualisation and design thinking will be extremely useful. Also, knowledge of the broader Canadian economic system/ financial products is highly desirable."

“Ensure there is a practicum or coop component to the program. Partner with School of businesses to teach some of the courses.”

“Food (production, distribution, consumption) is gaining more and more popularity in today's world. The more educated we are about food and resources in general and the more widespread this knowledge is, the better we will be at overall problem solving, creative thinking, and positioning ourselves in local and/or global markets surrounding food and sustainability for the future.”

Summary and Conclusions

The results of this informal survey indicate that firms and agencies, most of whom operate in the Province of British Columbia, recognize that food production, distribution and consumption is important for society's well-being and additional specialized training in the economics and business management of food systems is warranted. Employers are particularly interested in hiring recent graduates who have a good knowledge of food systems, have strong communication and collaboration skills, are highly analytical (e.g., programming skills) and have the tools and knowledge to analyze small and large data sets.

December, 2017 employer survey (hard copy of on-line version)**Proposed BSc in Food and Resource Economics, University of British Col****Employment survey.**

The Faculty of Land and Food Systems at the University of British Columbia is proposing to offer a BSc in Food and Resource Economics (FRE). The purpose of this survey is to assess employment opportunities for BSc (FRE) graduates.

Students in the BSc (FRE) program will learn to critically examine issues in agri-food supply chains, including natural resource and environmental impacts. These issues will be examined using the tools of applied economics and policy analysis, business and natural resource management, statistical analysis and interdisciplinary research methods. In addition to taking courses in food and resource economics, students will take courses from the Vancouver School of Economics (e.g., cost-benefit analysis, macro-economics), the Sauder School of Business (e.g., accounting, finance and marketing) and other programs in the Faculty of Land and Food Systems (e.g., integrated core courses, food safety regulations).

Please tell us your name, or enter NA if you prefer to remain anonymous.

Please enter your firm/organization, or enter NA if not relevant or if you prefer not to answer.

Which of the following best describes your firm/organization?

- ☐ Private enterprise, excluding financial institutions (e.g., Mission Hill Winery)
- ☐ Bank or financial institution (e.g., Van City)
- ☐ Government or municipal (e.g., BC Ministry of Agriculture)
- ☐ Not-for-profit enterprise (e.g., Columbia Basin Trust)
- ☐ Producer organization (e.g., BC Vegetable Marketing Commission)

☐ Consulting firm or individual (e.g., Upland Agricultural Consulting Ltd)

☐ Other

Type here

Have you hired a recent graduate from a university or college within the past five years (recent grad = three or fewer years since graduation)?

Yes

No

Are you intending to hire a recent graduate from a university or college within the next three years?

Yes

No

If you answered "no" to the previous question please answer the remaining questions from the perspective of a "wish list" for current employees.

BSc (FRE) graduates will have general training in the areas of applied economics, agribusiness management and statistical analysis. Examples include:

Applied Economics

- Trade and trade policy, agri-food supply chains, commodity price analysis, regulated markets
- Sustainable use of natural resources, property rights, renewable energy, ground water
- Environmental impacts such as nutrient run-off, greenhouse gases and loss of biodiversity
- Economics of food: local markets, certification, labeling, "fat" taxes, local food security
- International development issues, policy impact assessment, poverty reduction strategies

Agri-business Management

- Business planning methods, stages of start-up financing, industry competitiveness analysis
- Financial ratios, capital budgeting, investment analysis, financial and business risk
- Operations management, price forecasting, hedging with futures, supply chain logistics

Statistical Analysis

- Survey development best practices, organizing and summarizing survey data, contingency tables
- Statistical analysis (regression), confidence intervals, hypothesis testing,
- Analysis of big data sets, data analytics, time series analysis

BSc (FRE) graduates will also be highly interdisciplinary resulting from course work involving food and nutritional sciences, applied biology (plants, soil and animals) and

sustainable food systems. Core courses in the Faculty of Land and Food Systems emphasize interdisciplinary collaborative team work, problem solving and evidenced-based decision making.

How important is it that potential hires for your firm or organization have general training in the following areas (refer to descriptions above)?

| | Not very important | Somewhat important | Quite important | Very important | Not applicable |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Applied economics | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agri-business management | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Statistical analysis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Interdisciplinary (science) perspective | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

BSc (FRE) graduates will have employment-relevant skills that are in addition to their general training. Please assess the importance of these skills for potential hires.

| | Not very important | Somewhat important | Quite important | Very important | Not applicable |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Strong communication (written and verbal) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Collaborative problem solving methods | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Spreadsheet data management | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Survey design and analysis of survey data | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Statistical analysis (e.g., regression, ANOVA) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Creation of a full business plan | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Financial ratio analysis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Analysis of industry competitiveness | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Methods of cost - benefit analysis | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Methods of hedging -- price risk management | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

BSc (FRE) graduates have opportunities to gain additional skills through elective courses. Please identify which additional skills will be of value to your firm or organization.

- ☐ Programming skills (e.g., Word Press, Microsoft Access, R)
- ☐ Data analytics (e.g., social media impact assessment)
- ☐ Geographic information systems (GIS) programming
- ☐ Advanced financial accounting
- ☐ Detailed knowledge of food safety regulations
- ☐ A second language such as Mandarin, French or Spanish
- ☐ Experience studying/living outside of Canada/U.S.

☐ Other, please specify...

Type here

☐ Other, please specify...

Type here

☐ Other, please specify...

Type here

☐ Other, please specify...

Type here

How important is it that the person you are intending to hire is a member of the British Columbia Institute of Agrologists or have another professional designation such as a Registered Professional Forester (RPF) or a Registered Professional Biologist (RpBio)?

- ☐ Not very important
- ☐ Somewhat important
- ☐ Quite important
- ☐ Very important
- ☐ Not applicable
- ☐ Comment

Type here

When compared to applicants with other degrees (e.g., Commerce, Economics) how competitive is an applicant with a BSc (FRE) degree likely to be when applying for a position in your firm/organization?

- ☐ Very competitive
- ☐ Moderately competitive
- ☐ Somewhat competitive
- ☐ Not competitive
- ☐ Not applicable

BSc (FRE) graduates will typically have an option to spend an additional year at UBC and obtain a Masters of Food and Resource Economics (MFRE). This degree provides advanced training in the topic areas described above. If an applicant for your position had a MFRE degree in addition to a BSc (FRE) degree, how important would this advanced training be for your firm or organization?

- ☐ Not very important
- ☐ Somewhat important
- ☐ Quite important
- ☐ Very important
- ☐ Not applicable

How strongly do you agree or disagree with the following statement? Approving a BSc in Food and Resource Economics is a good strategic decision by UBC and the Province of British Columbia.

- ☐ Strongly disagree
- ☐ Mildly disagree
- ☐ Mildly agree
- ☐ Strongly agree
- ☐ No opinion

Please add comments that may be helpful for those in the BC Ministry of Advanced Education who will review the BSc (FRE) proposal.

Type here

Thank you for taking the time to complete this survey. Your input is an important part of the degree approval process and assists us in ensuring that UBC programs graduate students with appropriate skills and knowledge that are relevant and important in today's labour market.



[Administrator](#)

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Appendix C: Calendar descriptions and Learning Outcomes/Topics for Existing 300 and 400 level FRE courses

FRE 302 (3) Small Business Management in Agri-food Industries

Emphasizes the building of a business plan by exploring topics such as the planning process and financing, marketing and human resource concepts, as applied to an agri-food business, domestically and internationally. [3-0-1]

Prerequisite: One of ECON 101, ECON 310. Business Planning Basics

Learning Outcomes

- Describe the objectives and elements of the feasibility and business planning process
- Identify the unique features of food and agribusiness products in the business sector
- Outline the correct content, format and style of a professional business plan document
- Apply the principles underpinning business planning to a case study to review the feasibility of a product, start-up business or established firm.

Entrepreneurship and start-up

- Understand the challenges and benefits of entrepreneurship
- Evaluate legal structures available for business startups
- Develop a workable vision and mission statement for a business.

Marketing Analysis & Market Strategy

- Describe and use industry & competitor analysis frameworks to review potential for a product
- Describe and utilize segmentation analysis techniques in order to develop ideal customer person as and forecasts
- Understand options and decisions associated with marketing mix strategy- price, product, place and promotion.

Financial Management & Financing & Risk

- Describe, develop and use the main financial statements of net worth, balance sheet, net income and cash flow to support operations, planning and control of a business.
- Explain and understand the relationships among the main financial statements
- Develop and interpret financial ratios to assess the liquidity, solvency, profitability and efficiency of businesses in various stages of establishment.
- Compare and evaluate the different types of business financing.
- Describe the time value of money concept and use it to conduct capital investment and loan analysis related to business start-up
- Perform risk identification and management for startup and established firms through use of key principles and tools

FRE 306 (3) Introduction to Global Food Markets

An overview of global food markets including recent trends (e.g., vertical coordination, strategic alliances, multinationals and small firms in niche markets), marketing and trade institutions such as

state-trading enterprises and WTO regulations, issues specific to developing nations, and case studies. [3-0-1]

Prerequisite: One of ECON 101, ECON 310.

Learning Outcomes

- Understand how food markets work and what are the pressures for changes
- Have the ability to assess the implications of various aspects of market structure and organization, such as increases in firm size and market power both in domestic and international markets, international procurement, and supply chain management
- Identify the role of small firms who serve niche markets in global food systems
- Learn the use of economic tools such as excess supply/demand analysis and models such as the farm-retail margin model in application to food markets
- Assess implication of strategic planning by food firms with market power and their investment in food product brand names
- Assess the importance and implications of recent developments in food markets such as the introduction of genetically modified foods and the increased importance of food safety
- Identify and understand implications of various marketing and trade institutions in food markets such as supply management regimes in Canada, state trading enterprises, and the World Trade Organization
- Understand how various developments in global food markets, including trade and WTO rulings, and international commodity agreements affect the wellbeing of developed and developing countries

FRE 340 (3) International Agricultural Development

Characteristics, processes and sources of economic growth, role of agricultural and resource sectors in economic growth, analysis of output and input markets in those sectors, policy failures, tools for empirical analysis of rural markets, growth, and the environment. [3-0]

Prerequisite: One of ECON 100, ECON 101.

Learning Outcomes

To learn about the critical role that agriculture plays in international economic development. Including but not limited to:

- An examination of theories of growth and development and their relationship to the agricultural sector, along with
 - The factors responsible for growth and transformation in rural and urban areas;
 - The role of agriculture in poorer countries' economic development;
 - Government policies that enhance the prospects for sustainable growth;
 - The environmental impact of economic development;
 - The social impact of economic development;
 - The linkages among the industrial, natural resource and agricultural sectors;
- Methods of analysis of development in order to help shape government policy;
- Analysis of agricultural development problems using economic concepts; and
- An analysis and critique of policies related to international agricultural development.

Examples will be drawn from a variety of developing countries and political units. Although the agricultural sector will be covered in some detail the complementary role of other industries will also be given attention to show how to apply, more broadly, the lessons learned in agriculture to other sectors of the economy. Our studies will reveal the complex aspects of economic development, the actuality that growth paths are difficult to achieve, and that our understanding of the intricacies of economic development is not complete.

FRE 374 (3) Land and Resource Economics

Willingness to pay, opportunity costs, externalities, and market failures in natural resource markets; dynamic efficiency; economic applications including mineral, marine, forest, land, water, and biodiversity. [3-0]

Prerequisite: One of ECON 101, ECON 310.

Equivalency: ECON 374.

Topics

1. An Introduction to Natural Resource Economics: Field chapters 1 and 2
2. Building Blocks
 - Willingness to Pay: Field chapter 3
 - Costs/Supply: Field chapter 4
 - Efficiency/Sustainability: Field chapter 5
3. Markets and Efficiency: Field chapter 6
4. Public Policy, Objectives, Types, etc: Field chapter 7
5. Natural Resource Analysis
 - Principles of Analysis: Field chapter 8
 - Valuation of Natural Resources: Field chapter 9
6. Applied Natural Resource Problems
 - Mineral Economics: Field chapter 10
 - Marine Resources: Field chapter 13
 - Forest Economics: Field chapter 12
 - Economics of Wildlife Management: Field chapter 18
 - Economics of Biodiversity Preservation: Field chapter 19
 - Land Economics
 - An Introduction: Field chapter 14
 - Resource Rents and Rent Capture: Field chapter 14 and material on Vista
 - Efficiency and Equity in Land Use Planning: material on Vista
 - Degradation and Conservation of Agricultural Land: material on Vista
 - Water Resources: Field chapter 15
 - Natural Resource Decisions in Developing Countries: Field chapter 21

FRE 385 (3) Quantitative Methods for Business and Resource Management

Spreadsheet modeling and analysis of business and resource management problems: decision analysis, forecasting, linear programming, simulation modeling, and inventory management. [2-1-0]

Prerequisite: One of ECON 101, ECON 310 and one of LFS 252, BIOL 300, FRST 231, STAT 200.

Topics

Week 1 Introduction to the course (Model Building).

Week 2 Decision Analysis: Excel, Pivot Tables, Descriptive Stats, Maximax, Maximin, EMV, EOL, Minimax Regret, EVPI, Decision Trees.

Week 3 Decision Analysis: Complex Decision Trees, Building Decision Trees in Excel (Treeplan.xla), Sensitivity Analysis (Data Tables).

Week 4 Decision Analysis: Bayes Theorem and applications, Monte Carlo Simulation, Analytic Hierarchy Process.

Week 5 Forecasting: Introduction, Stationary Models - MA, SES.

Week 6 Forecasting: Trend Models (Linear, Quadratic, and Holts), Introduction to Seasonal Models

Week 7 Forecasting: Seasonal Models (decomposition methods, regression methods, and Holt-Winters)

Week 8 Midterm Exam (30%), Introduction to Optimization Techniques

Week 9 Linear Programming - concepts, Formulation of 2-variable problem, Graphical solution, Interpretation of graphical results including sensitivity analysis, Modelling LP using Excel.

Week 10 Linear Programming - Formulation of 2-variable problem, Graphical solution, Interpretation of graphical results including sensitivity analysis, Modelling LP using Excel.

Week 11 Introduction to Inventory Management. Inventory Models: EOQ, Probabilistic models, reorder point with probabilistic demand, Newsvendor model.

Week 12 In-class Simulation Game: Decision Making in the context of Demand Uncertainty.

Week 13 Debrief Simulation Game

FRE 420 (3) The Economics of International Trade and the Environment

Market failure and gains from trade in the presence of natural resource externalities; the multilateral trading system and the environment; case studies in trade-related environmental impacts. [3-0]

Prerequisite: One of ECON 301, FRE 295, COMM 295 or 6 credits of upper-level FRE or ECON.

Learning Outcomes

- To learn the process by which policies become adopted and changed, and the role that economic analysis can play in contributing to that process
- To learn to analyze agri-food (farm and post-farmgate sub-sectors) policies and institutions by determining their costs, benefits, the distribution of those costs and benefits, and the measurement of welfare costs
- To adapt traditional economic analysis to an environment of international trade and global markets in analyzing agri-food policies
- To learn the details of the major policies and institutions that affect the agri-food and resources sectors in BC and Canada, and the major policy issues that are debated
- To learn the effect of macro-economic policies on these sectors
- To be able to present a policy analysis and critique popular and published literature in favour of or in opposition to various policies.

FRE 460 (3) Economics of Food Consumption

Microeconomics of consumer decisions and public policy in food contexts; foodborne illness; economic causes and consequences of obesity; sin taxes and prohibitions; information campaigns and advertising; labeling; food waste and ethics. [3-0]

Prerequisite: One of ECON 101, ECON 301.

Topics

- Week 01 Rational Choice versus Behavioural Economics
- Week 02 Risk and Food Consumption
- Week 03 Changing Nutritional Content of Food
- Week 04 Health and Obesity
 - Timeline
 - Costs
 - Causes
 - Policy
- Week 05 Advertising
- Week 06 Nutritional Labeling
- Week 07 Food Away from Home
- Week 08 Demographics of Food Consumption
- Week 09 Sin Taxes and Bans
- Week 10 Supply Management and other Supply Restrictions
- Week 11
 - Environment and Food
 - Waste and Foodmiles
 - Vegetarianism, Organics, and GMOs
- Week 12 Ethics and Labeling

FRE 490 (3) Current Issues in Food and Resource Economics

(Impact Evaluation Analytics)

[3-0]

Prerequisite: One of ECON 101, ECON 310.

Learning Outcomes

- Upon completion of this course, with a special focus on assistance interventions through (aid) development projects and programs for natural resource management / health & nutrition projects, students will have the tools to conduct external project evaluations.
 - Independently and credibly evaluate development projects' and programs' relevance, efficiency, effectiveness and impacts within and beyond the project's location, also,
 - Identifying indications of development continuity beyond the lifetime of assistance interventions
 - Identifying and reporting beneficial changes in behavior of the project implementers to improve the design of future projects, and to promote policy reform that creates more enabling conditions for growth and development.

Appendix D: Course Codes and Names

New Courses

| | |
|---------|--|
| FRE 326 | Empirical Methods for Food and Resource Economics |
| FRE 426 | Econometric Analysis for Food and Resource Economics |
| FRE 394 | Government and Business (cross listed with COMM 394) |
| FRE 497 | Directed Studies in Food and Resource Economics |
| FRE 499 | Undergraduate thesis |

Discontinued Courses

FRE 295 (students in Food Market Analysis Major will take ECON 301 instead)

| Course code | Course Name |
|-------------|---|
| LFS 100 | Introduction to Land, Food and Community |
| LFS 150 | Scholarly Writing and Argumentation in Land and Food Systems |
| LFS 250 | Land, Food and Community I |
| LFS 252 | Land, Food, and Community: Quantitative Data Analysis |
| LFS 350 | Land, Food, and Community II |
| APBI 100 | Soil and the Global Environment |
| APBI 265 | Sustainable Agriculture and Food Systems |
| FNH 200 | Exploring Our Food |
| ENGL 112 | Strategies for University Writing |
| MATH 102 | Differential Calculus with Applications to Life Sciences |
| MATH 103 | Integral Calculus with Applications to Life Sciences |
| MATH 104 | Differential Calculus with Applications to Commerce and Social Sciences |
| MATH 105 | Integral Calculus with Applications to Commerce and Social Sciences |
| STAT 200 | Elementary Statistics for Applications |
| FRE 295 | Managerial Economics |
| FRE 302 | Small Business Management in Agri-food Industries |
| FRE 306 | Introduction to Global Food Markets |
| FRE 325 | Introduction to Empirical Methods for Food and Resource Economics |
| FRE 326 | Advanced Empirical Methods for Food and Resource Economics (new) |
| FRE 340 | International Agricultural Development |
| FRE 374 | Land and Resource Economics (cross listed with ECON 374) |
| FRE 385 | Quantitative Methods for Business and Resource Management |
| FRE 394 | Government and Business (new: cross-listed with COMM 394) |
| FRE 420 | The Economics of International Trade and the Environment |
| FRE 460 | Economics of Food Consumption |
| FRE 490 | Current Issues in Food and Resource Economics |
| FRE 497 | Directed Studies in Food and Resource Economics (new) |
| FRE 499 | Undergraduate thesis (6 credits) |
| COMM 457 | Fundamentals of Financial Accounting |
| COMM 458 | Fundamentals of Managerial Accounting |
| COMM 465 | Marketing Management |
| COMM 473 | Business Finance |
| BIOL 112 | Biology of the Cell |
| BIOL 343 | Plants and Peoples |

| | |
|-----------|--|
| CONS 425 | Sustainable Energy: Policy and Governance |
| ENVR 430 | Ecological Dimensions of Sustainability |
| FRST 304 | The Science Underlying Forestry Issues |
| FRST 399 | Introduction to Research Methods |
| RMES 500T | Global Food Security and Sustainability |
| GEOB 270 | Geographic Information Science |
| GEOG 312 | Climate Change: Science and Society |
| ECON 101 | Principles of Microeconomics |
| ECON 102 | Principles of Macroeconomics |
| ECON 221 | Introduction to Strategic Thinking |
| ECON 234 | Wealth and Poverty of Nations |
| ECON 255 | Understanding Globalization |
| ECON 301 | Intermediate Microeconomic Analysis I |
| ECON 303 | Intermediate Microeconomic Analysis II |
| ECON 325 | Introduction to Empirical Economics |
| ECON 339 | Economics of Technological Change |
| ECON 326 | Methods of Empirical Research in Economics |
| ECON 341 | Economic Development of Asia |
| ECON 355 | Introduction to International Trade |
| ECON 356 | Introduction to International Finance |
| ECON 360 | Labour Economics |
| ECON 365 | Topics in Canadian Industrial Organization and Regulation Policy |
| ECON 370 | Benefit-Cost Analysis and the Economics of Project Evaluation |
| ECON 371 | Economics of the Environment |
| ECON 374 | Land and Resource Economics |
| ECON 390 | Introduction to Economic Research |
| ECON 465 | Market Structure |
| ECON 471 | Economics of Nonrenewable Resources |
| ECON 472 | Economics of Renewable Resources |

Appendix E : Acceptable Supporting Topic Courses (listed on Food and Resource Economics website)

Food Markets and Development

BIOL 343, RES 500T, ECON 341, 339, 355

Land, Resources & Environment

FRST 304, GEOG 312, CONS 425, ENVR 430, ECON 370, 371, 471, 472

Food and Resource Management

COMM 329, 398, 457, 465, 473, 493 and 458

GUIDELINES FOR FRE 497 (2-6)***UNDERGRADUATE DIRECTED STUDIES IN FOOD AND RESOURCE ECONOMICS***

This course provides a means for individual students to undertake customized projects designed to provide an opportunity for students to develop and strengthen their research skills and to accommodate special research interests that cannot be met through other FRE courses. Admission to FRE 497 is arranged through the Food and Resource Economics **undergraduate program advisor**, and must be recommended by the faculty member who will be supervising the work that the student is to undertake. Students interested in FRE 497 should contact the undergraduate advisor and the individual faculty member(s) with whom they are interested in conducting a project well in advance of the beginning of the academic term; for example, students should approach potential supervisors in summer regarding projects to start in September. Opportunities for conducting projects are limited.

The work plan is arranged and agreed to by the student and the faculty member and should be set out in writing with a copy to the undergraduate advisor (this document should be titled “**FRE 499 Thesis Proposal**”). The work will consist of a definable project requiring literature search, descriptive analysis, and a written report. A proposal is due two weeks after the start of the term, a thorough literature review and detailed work plan before the descriptive analysis begins, and a brief progress report (1-2 pages) is expected from the student when approximately half of the descriptive analysis has been completed. Further details on the deadlines and requirements of the course are given below.

Students will be expected to spend approximately 40 hours of work per credit, or approximately 240 hours to this course. This includes time spent on literature search, descriptive analysis and the write-up. A regular schedule of consultations should be pre-arranged between the supervisor and the student in order to monitor and discuss progress and time spent by the student on the project. The meeting time should form a regular entry on the timetables of both the student and the supervisor.

If the project is to be conducted totally, or in part, at a location other than UBC, the supervising faculty member will make appropriate arrangements for regular monitoring of progress and time. This may entail appointment of an on-site co-supervisor.

If the project is associated with a summer or part-time, paid or volunteer position held by the student, care must be taken to ensure that any hours of work on the directed studies project are over and above those required of the related position. The supervisor must be satisfied that this requirement has been met. Normally, a minimum of 50% of the work required for the course must be conducted during the session in which the student is enrolled in the course. Exception to this requirement may be requested in advance where its application would result in a course overload, unnecessary delay in time to graduation, or the imposition of extra fees.

It is expected that the thesis will be completed within the academic year when it is initiated. The maximum period allowed for completion is 12 months, according to the University of British Columbia calendar, as noted below.

If a student in a baccalaureate program who receives a "T" standing in a graduating essay or other course approved by the faculty completes the course within 12 months of the end of the term in which the student first registered for the course the "T" standing will be replaced by the grade assigned. If the course is not completed within 12 months the "T" standing will be replaced by a grade of zero (or "F" standing in a Pass/Fail course) (From <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,42,96,0>).

The following deadlines are suggested for students enrolled in FNH 499. The student and their supervisor must discuss and come to an agreement on deadlines at the start of the project.

| Milestones | May – Aug Schedule | Sept – April Schedule |
|---|-------------------------------|----------------------------------|
| Submission of project title and name of supervisor to undergraduate advisor | May 1 | September 15 |
| Proposal to supervisor | May 15 | October 1 |
| Literature search/ Descriptive Analysis Plan Preliminary | May 30 | October 31 |
| Literature search/ Descriptive Analysis Plan Final | June 1 | November 15 |
| Progress report to supervisor | June 30 | January 15 |
| Descriptive Analysis work completed | August 1 | February 15 |
| Submission of draft to supervisor | August 14 | March 15 |
| Submission of final copy to supervisor | August 21 | April 7 |
| Oral presentation of work (if appropriate) | Arranged with supervisor | |

Responsibilities of the supervisor

- Selection of appropriate research project in conjunction with the student
- Providing guidance on literature review, descriptive analysis, and presentation of results
- Scheduling of regular meetings with the student (e.g. weekly or biweekly)
- Giving feedback on the draft in a timely manner
- Arranging for a second evaluator and evaluating the student research and write-up
- Note: the role of the supervisor in the written report should be restricted to:
 1. provide general recommendations regarding structure, development, and progression of ideas;
 2. provide advice on the general format of the report, according to the guidelines, and the use of correct grammar, spelling, and sentence structure.
 3. The involvement of the supervisor normally should be limited to the first draft of the report.

Responsibilities of the student

- Make arrangements well in advance to work under the guidance of a faculty member as a supervisor.
- *Strict* adherence to deadlines and guidelines for the course, as stated in this document and arranged with the supervisor
- Submit copies of the project proposal to the project supervisor and the Undergraduate Advisor within two weeks after the start of the term via the course Connect website. The proposal (~2 pages) will consist of the following information:
 - The aim and specific objectives of the project.

- The significance of the project (why is it interesting or important), supported by relevant background information and literature
- The descriptive analysis approach that will use to examine the issues.
- The potential problems or difficulties that might be encountered in the project.
- The time line for the work (the date when specific steps or milestones will be completed, including the date of submission of the written report).

The proposal must be approved by the undergraduate advisor within the agreed upon date or the student will be removed from the course.

- Allocate appropriate time to this course over the two terms.
- Submit a brief (one or two pages) progress report to the project supervisor and the Undergraduate Advisor. This report should state:
 - Major accomplishments in the work to that time.
 - Major problems in the project.
 - Significant changes in the aim or approach for the project.
 - Remaining analysis that is expect to be completed before writing up the final project report.
- Submission of two bound copies of the final report for evaluation.

Course Evaluation

For purposes of determining a grade for the written report, evaluation will be conducted by the supervisor and at least one other faculty member selected from the program. Where feasible and necessary, a common standing review committee will be struck. Evaluation of the course will be based on the organization and conduct of the project work and the written report.

One suggestion for an evaluation scheme is given below. This scheme may be modified by the supervisor, and should be distributed to the student at the beginning of the project.

Evaluation Scheme Example

Literature Review and Descriptive Analysis (45% weighting of final mark)

- Initiative (20%)
- Technique (20%)
- Comprehension (20%)
- Organization, work habits, attention to details (20%)
- Dedication and Perseverance (20%)

Oral Presentation (10% weighting of final mark)

Final Report (45% weighting of final mark)

- Abstract (5%)
 - A concise summary of the report
- No abbreviations should be used

Introduction, Statement of Objectives (5%)

- Introduction of the research topic
 - Clear outline of the study objective and specific aims of the project

Literature Review (15%)

Showing depth and scope of the pertinent literature

Descriptive Analysis (15%)

Concise and explicit description of the descriptive analysis methods used

Citation of appropriate references for methods not developed by the student themselves

Source of data used

Methods used for data analysis, as appropriate

Results (10%)

Presentation of figures, tables, appendices where applicable, in a manner that is commonly used in research publications for the area.

Inclusion of statistical significance of data

Presentation of data solely generated by the student during the project

Discussion (20%)

Demonstrating critical analysis of results and comprehension of subject area

Conclusions (5%)**References (5%)**

Citation of all literature referred to in the report

Consistent and appropriate format used

Clarity, grammar (sentence structure, spelling), organization (20%)**Report Write-up Guidelines**

The following items are suggestions as to the write-up of theses. For specific items, the Research Supervisor should be consulted. Also available for consultation, are copies of theses of previous classes.

Each report should contain, in the order given, the following sections:

Title page: This page contains the title, author's name, a statement as follows, and the date (see example attached).

Abstract: This is a condensation of the contents of the report, usually 200 words or less, giving significant information in the report. It serves as a quick reference to determine if the report contains information a person is looking for.

Table of Contents: This should list all major and subheadings accompanied by the page on which they are found (see example attached).

List of Tables: The table number, caption and page on which it is found are listed.

List of Figures: The figure number, legend and page on which it is found are listed.

Acknowledgements: This section expresses thanks and appreciation to individuals, institutions or organizations that were particularly helpful in the carrying out of the work. This section is optional.

Introduction: The introduction outlines to the reader the report subject, its importance, presents the specific problem of the report and indicates the nature of the investigation carried out.

Literature Review: This section generally outlines or discusses findings reported by others in books and journals, relating to and leading to the proposed investigation as related in the report (corrected version submitted for marking in October inserted)

Descriptive Analysis: This section should describe the descriptive analysis procedures.

Results and Discussions: This section can be written as a combination of the two or as separate entities. The section summarizes the descriptive analysis results in terms of what they mean logically, leading up to a set of conclusions. The format of tables and figures should be as in the *Canadian Journal of Agricultural Economics*.

Conclusions: This section reports the conclusions reached on the basis of evidence presented in the discussion. This may often be combined with a concise summation of results reported in the previous section.

References: This should be an alphabetical listing of authors of literature cited in the report. The format to be used for citing in the report body and listing at the end should be that of the *Canadian Journal of Agricultural Economics*.

Appendix: Appendices are repositories for details that must be recorded because they may be needed, but would slow the reader down unnecessarily if placed in the body of the report. Appendix materials must be referred to in the body of the report. Calculations, detailed analyses and test figures are typical material found in this section.

This report should be legibly typed or printed on good quality bond paper. The two copies to be submitted to the advisor may be good quality photocopies. The copies submitted should be bound in suitable binders such as Duo-tang or Acco-press binders, or coil bound.

By

Your name

Food and Resource Economics Program

Faculty of Land and Food Systems

The University of British Columbia

April 20XX

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| INTRODUCTION | 1 |
| LITERATURE REVIEW | 3 |
| DESCRIPTIVE ANALYSIS | 10 |
| RESULTS AND DISCUSSION (Note: results and discussion may be presented as a single section or may be presented as two separate sections) | 15 |
| CONCLUSION | 26 |
| REFERENCES | 27 |
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| Category/Rating | Poor (0-3) | Acceptable (3.5) | Good (4) | Excellent (5) |
|--|--|--|---|---|
| KNOWLEDGE & CONTENT | | | | |
| Adequacy of introduction | Introduction and background information was unfocused; audience did not know what the objectives of the presentation were. | Audience had an idea of the focus and objectives of the presentation, but some of the background was either missing or irrelevant. | Captured audience attention; presented adequate background; objectives were clear by the end of the introduction. | Captured audience attention; presented relevant background, quickly established a focus, and clearly stated objectives of the presentation. |
| Explanation of descriptive analysis methodology | Presented procedures used without demonstrating why those methods were chosen or an understanding of the principles. | Presented overview of experimental approach, and described methods to be used. | Presented details of the chosen experimental approach; accurate description of main principles and key steps of methods. | Gave clear rationale and details for the chosen experimental approach; accurate description of main principles and key steps of methods. |
| Explanation of results | Data was not presented clearly, and/or incorrect explanations of the results were given. | Presented the data obtained from each of the methods; made a good attempt to explain the results. | Presented the data obtained from each of the methods clearly; explained the meaning of each of these results. | Presented the data obtained from each of the methods clearly; provided meaningful interpretation and inter-connections of results |
| Clarity & accuracy of discussion; Critical judgment exercised | Did not show any understanding of the significance and limitations of the research findings | Gave a good effort to explain the significance and limitations of the research findings | Demonstrated good understanding of the significance and limitations of the research findings | Articulated critical judgment and good understanding of the significance and limitations of the research findings |
| Appropriateness of conclusion and take-home message | Ended the presentation abruptly; or a conclusion was presented that did not reflect the main points of the presentation. | Summarized main points of the presentation; audience left with a take-home message. | Summarized main points of the presentation; audience left with a clear take-home message; presentation concluded logically. | Summarized main points in an integrated fashion; audience left with a clear take-home message; presentation concluded logically. |
| Response to questions | Lacked accurate or relevant answers to most of the questions asked. | Made strong effort to answer questions, and handled most questions knowledgeably, but with some hesitation. | Handled most questions knowledgeably and with confidence. | Handled questions knowledgeably and with confidence; demonstrated greater depth of knowledge than what was presented. |

| | | | | |
|------------------------------------|--|--|---|--|
| Flow of information | Presentation of information is disconnected; audience found it difficult to understand the main points and to follow the presentation. | Logical organization of information; some gaps or pauses in the transitions between sub-topics of group members. | Smooth and logical organization of information; transitions between sub-topics and group members were mostly effective. | Smooth and logical organization of information; effective bridging between sub-topics and among group members; easy to follow. |
| Effectiveness of delivery | Reading extensively from notes or the monitor; no eye contact with audience; low volume &/or speaking in a monotone | Spoke in a clear voice at an acceptable pace; occasionally relying on notes or the monitor; made some eye contact with the audience. | Spoke clearly, with good volume and intonation and at a good pace; established good eye contact with the audience | Spoke clearly and confidently, with good volume and intonation and at a good pace; excellent eye contact with the audience |
| Enthusiasm, professionalism | Apathetic presentation of information; distracting gestures, inappropriate demeanor and/or frequent use of slang or colloquialism | Demonstrated interest for the topic. Occasional distracting gestures or inappropriate choice of words. | Demonstrated enthusiasm for the topic; conveyed professionalism in language and demeanor. | Demonstrated a passion for the topic and instilled interest in the audience; conveyed professionalism in language and demeanor. |
| Use of visual aids | Most visual aids were too "busy", &/or had text with too small font size or verbatim to speaker's presentation. | Visual aids were used to convey information to the audience. Some slides may have been difficult to understand or see clearly. | Visual aids were attractive and effectively used to clearly convey information to the audience. | A variety of visual aids was used to capture the attention of the audience and enhance understanding of the presented information. |
| Adherence to time limit | Presentation was longer than 18 minutes or shorter than 12 minutes. | Kept to within three minutes of the prescribed 15 minute time limit | Kept to within two minutes of the prescribed 15 minute time limit. | Kept to within a minute of the prescribed 15 minute time limit! |



University of British Columbia
Faculty of Land and Food Systems
Directed Studies
FRE 497
Registration Form

Date Registered _____

Initials: _____
FNH Program Coordinator

| | | | |
|----------------------|--|-----------------------|--|
| Student Name: | | UBC Student #: | |
|----------------------|--|-----------------------|--|

Select a Term

| | |
|--|--|
| | Sept-Dec (Winter Session, Term 1) |
| | Jan-Apr (Winter Session, Term 2) |
| | Sept – Apr (Winter Session, Terms 1 & 2) |
| | May – Aug (Summer Session, Terms 1 & 2) |

| | | | | |
|---------------------------------|--|---------------------------------------|--|---|
| Start Date (yy/mm/dd) | | Expected End Date(yy/mm/dd) | | Credit Level (circle one) A(2) B(3) E(6) |
|---------------------------------|--|---------------------------------------|--|---|

Select all applicable boxes:

| | | | |
|---|--|--|---------------------------------------|
| <input type="checkbox"/> <i>approved institution Canada</i> | <input type="checkbox"/> <i>approved institution international</i> | <input type="checkbox"/> <i>UBC Farm</i> | <input type="checkbox"/> <i>Other</i> |
| Project site: | | | |
| Academic supervisor: | Site supervisor: (If applicable) | | |

Project Proposal Summary

(Include information on learning objectives, work involved, and assessment criteria. Attach extra sheet if necessary)

| | | |
|---|---|---|
| Learning objectives: | | |
| | | |
| Work involved: | | |
| | | |
| Outcomes/Output/Assessment criteria: Mark for this directed studies will be based on: | | |
| | | |
| _____ Student Signature | _____ Academic supervisor signature | _____ Site supervisor signature |
| _____ Date | _____ Date | _____ Date |

GUIDELINES FOR FRE 499 (6)**UNDERGRADUATE THESIS IN FOOD AND RESOURCE ECONOMICS**

This course provides a means for individual students to undertake customized projects designed to provide an opportunity for students to develop and strengthen their research skills and to accommodate special research interests that cannot be met through other FRE courses. Admission to FRE 499 is arranged through the Food and Resource Economics **undergraduate program advisor**, and must be recommended by the faculty member who will be supervising the work that the student is to undertake. Students interested in FRE 499 should contact the undergraduate advisor and the individual faculty member(s) with whom they are interested in conducting a project well in advance of the beginning of the academic term; for example, students should approach potential supervisors in summer regarding thesis projects to start in September. Opportunities for conducting projects are limited.

The work plan is arranged and agreed to by the student and the faculty member and should be set out in writing with a copy to the undergraduate advisor (this document should be titled “**FRE 499 Thesis Proposal**”). The work will consist of a definable project requiring literature search, theoretical and/or empirical analysis, and a written thesis. The thesis proposal is due two weeks after the start of the term, a thorough literature review and detailed work plan before the theoretical and/or empirical analysis begins, and a brief progress report (1-2 pages) is expected from the student when approximately half of the formal analysis has been completed. Further details on the deadlines and requirements of the course are given below.

Students will be expected to spend approximately 40 hours of work per credit, or approximately 240 hours to this course. This includes time spent on literature search, construction of theoretical and/or empirical models, generating formal results and the write-up. A regular schedule of consultations should be pre-arranged between the supervisor and the student in order to monitor and discuss progress and time spent by the student on the project. The meeting time should form a regular entry on the timetables of both the student and the supervisor.

If the project is to be conducted totally, or in part, at a location other than UBC, the supervising faculty member will make appropriate arrangements for regular monitoring of progress and time. This may entail appointment of an on-site co-supervisor.

If the project is associated with a summer or part-time, paid or volunteer position held by the student, care must be taken to ensure that any hours of work on the directed studies project are over and above those required of the related position. The supervisor must be satisfied that this requirement has been met. Normally, a minimum of 50% of the work required for the course must be conducted during the session in which the student is enrolled in the course. Exception to this requirement may be requested in advance where its application would result in a course overload, unnecessary delay in time to graduation, or the imposition of extra fees.

It is expected that the thesis will be completed within the academic year when it is initiated. The maximum period allowed for completion is 12 months, according to the University of British Columbia calendar, as noted below.

If a student in a baccalaureate program who receives a "T" standing in a graduating essay or other course approved by the faculty completes the course within 12 months of the end of the term in which the student first registered for the course the "T" standing will be replaced by the grade assigned. If the course is not completed within 12 months the "T" standing will be replaced by a grade of zero (or "F" standing in a Pass/Fail course) (From <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,42,96,0>).

Deadlines for the course

The following deadlines are suggested for students enrolled in FRE 499. The student and their supervisor must discuss and come to an agreement on deadlines at the start of the project.

| Milestones | May – Aug Schedule | Sept – April Schedule |
|---|--------------------------|--------------------------|
| Submission of project title and name of supervisor to undergraduate advisor | May 1 | September 15 |
| Thesis proposal to supervisor | May 15 | October 1 |
| Literature search/ Model Construction Draft | May 30 | October 31 |
| Literature search/ Model Construction Final | June 1 | November 15 |
| Thesis progress report to supervisor | June 30 | January 15 |
| Theoretical/empirical analysis work completed | August 1 | February 15 |
| Submission of thesis draft to supervisor | August 14 | March 15 |
| Submission of final thesis copy to supervisor | August 21 | April 7 |
| Oral presentation of thesis work | Arranged with supervisor | |

It is expected that FNH 499 Undergraduate Thesis courses will be completed within **no more than two consecutive terms**, unless otherwise agreed to at time of registration. If a grade has not been reported by the deadline, a "T" standing will be recorded. The "T" standing may be changed once the thesis Academic Supervisor submits a written record of the grade to the FNH Program Advisor.

Responsibilities of the supervisor

- Selection of appropriate research project in conjunction with the student
- Provision of suitable data or experimental methods to perform the work, including ethics approval if required
- Providing guidance on model design, data analysis, and presentation of results
- Scheduling of regular meetings with the student (e.g. weekly or biweekly)
- Giving feedback on the thesis draft in a timely manner
- Arranging for a second thesis evaluator and evaluating the student lab work and thesis write-up
- Note: the role of the supervisor in the written report should be restricted to:
 1. provide general recommendations regarding structure, development, and progression of ideas;
 2. provide advice on the general format of the report, according to the guidelines, and the use of correct grammar, spelling, and sentence structure.
 3. The involvement of the supervisor normally should be limited to the first draft of the report.

Responsibilities of the student

- Make arrangements well in advance to work under the guidance of a faculty member as a thesis supervisor.
- *Strict* adherence to deadlines and guidelines for the course, as stated in this document and arranged with the supervisor
- Submit copies of the project proposal to the project supervisor and the Undergraduate Advisor within two weeks after the start of the term via the course Connect website. The thesis proposal (~2 pages) will consist of the following information:
 1. The aim or hypothesis of the project (the idea that are being testing).

2. The significance of the project (why is it interesting or important), supported by relevant background information and literature
3. The theoretical and/or empirical methods that will use to test the project (the general procedures to be used).
4. The potential problems or difficulties that might be encountered in the project.
5. The time line for the work (the date when specific steps or milestones will be completed, including the date of submission of the written thesis).

The thesis proposal must be approved by the undergraduate advisor within the agreed upon date or the student will be removed from the course.

- Allocate appropriate time to this course over the two terms.
- Submit a brief (one or two pages) progress report to the project supervisor and the Undergraduate Advisor. This report should state:
 1. Major accomplishments in the work to that time.
 2. Major problems in the project.
 3. Significant changes in the aim or approach for the project.
 4. Remaining analysis that is expect to be completed before writing up the final project report.
- Submission of two bound copies of the final thesis for evaluation.

Course Evaluation

For purposes of determining a grade for the written thesis, evaluation will be conducted by the supervisor and at least one other faculty member selected from the program. Where feasible and necessary, a common standing review committee will be struck. Evaluation of the course will be based on the organization and conduct of the project work and the written report.

One suggestion for an evaluation scheme is given below. This scheme may be modified by the supervisor, and should be distributed to the student at the beginning of the project.

Evaluation Scheme Example

Theoretical and/or Empirical Analysis *(45% weighting of final mark)*

- Initiative (20%)
- Technique (20%)
- Comprehension (20%)
- Organization, work habits, attention to details (20%)
- Dedication and Perseverance (20%)

Oral Presentation *(10% weighting of final mark)*

Final Report *(45% weighting of final mark)*

- Abstract (5%)
 - A concise summary of the report
 - No abbreviations should be used
- Introduction, Statement of Objectives (5%)

Introduction of the research topic

Clear outline of the hypothesis, rationale, objective and specific aims of the project

Literature Review (15%)

Showing depth and scope of the pertinent literature

Theoretical and/or Empirical Methods (15%)

Concise and explicit description of the methods used

Detailed description of alternative methods that have been used in the literature

Citation of appropriate references for methods not developed by the student themselves

Results (10%)

Presentation of figures, tables, appendices where applicable, in a manner that is commonly used in research publications for the area.

Inclusion of statistical significance of data

Presentation of data solely generated by the student during the project

Discussion (20%)

Demonstrating critical analysis of results and comprehension of subject area

Conclusions (5%)

References (5%)

Citation of all literature referred to in the report

Consistent and appropriate format used

Clarity, grammar (sentence structure, spelling), organization (20%)

Thesis Write-up Guidelines

The following items are suggestions as to the write-up of theses. For specific items, the Research Supervisor should be consulted. Also available for consultation, are copies of theses of previous classes.

Each thesis should contain, in the order given, the following sections:

Title page: This page contains the title, author's name, a statement as follows: "A thesis submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Agriculture in the Department of Food Science", and the date (see example attached).

Abstract: This is a condensation of the contents of the thesis, usually 200 words or less, giving significant information in the report. It serves as a quick reference to determine if the thesis contains information a person is looking for.

Table of Contents: This should list all major and subheadings accompanied by the page on which they are found (see example attached).

List of Tables: The table number, caption and page on which it is found are listed.

List of Figures: The figure number, legend and page on which it is found are listed.

Acknowledgements: This section expresses thanks and appreciation to individuals, institutions or organizations that were particularly helpful in the carrying out of the thesis work. This section is optional.

Introduction: The introduction outlines to the reader the thesis subject, its importance, presents the specific problem of the thesis and indicates the nature of the investigation carried out.

Literature Review: This section generally outlines or discusses findings reported by others in books and journals, relating to and leading to the proposed investigation as related in the thesis (corrected version submitted for marking in October inserted)

Theoretical and/or Empirical Methods: This section should describe the theoretical and/or empirical models used along with the data in a manner which would allow others to duplicate the work.

Results and Discussions: This section can be written as a combination of the two or as separate entities. The section relates the theoretical and/or empirical results from the study and describes the findings and what they mean are described logically, leading up to a set of conclusions. The format of tables and figures should be as in the *Canadian Journal of Agricultural Economics*.

Conclusions: This section reports the conclusions reached on the basis of evidence presented in the discussion. This may often be combined with a concise summation of results reported in the previous section.

References: This should be an alphabetical listing of authors of literature cited in the thesis. The format to be used for citing in the thesis body and listing at the end should be that of the *Canadian Journal of Agricultural Economics*.

Appendix: Appendices are repositories for details that must be recorded because they may be needed, but would slow the reader down unnecessarily if placed in the body of the thesis. Appendix materials must be referred to in the body of the thesis. Calculations, detailed analyses and test figures are typical material found in this section.

This thesis should be legibly typed or printed on good quality bond paper. It should be in 12 pt font, with 2.54 cm margins, double spaced, and printed single sided. The two copies to be submitted to the thesis advisor may be good quality photocopies. The copies submitted should be bound in suitable binders such as Duo-tang or Acco-press binders, or coil bound.

By

Your name

**A Thesis Submitted in Partial Fulfillment for the Requirements for the Degree of Bachelor of
Science in Food and Resource Economics**

Food and Resource Economics Program

Faculty of Land and Food Systems

The University of British Columbia

April 20XX

TABLE OF CONTENTS (Example)

| | Page |
|---|-------------|
| ABSTRACT | i |
| LIST OF FIGURES | ii |
| LIST OF TABLES | viii |
| ACKNOWLEDGEMENTS | ix |
| INTRODUCTION | 1 |
| LITERATURE REVIEW | 3 |
| THEORETICAL AND/OR EMPIRICAL METHODS | 10 |
| RESULTS AND DISCUSSION (Note: results and discussion may be presented as a single section or may be presented as two separate sections) | 15 |
| CONCLUSION | 26 |
| REFERENCES | 27 |
| APPENDICES | 29 |

| Category/Rating | Poor (0-3) | Acceptable (3.5) | Good (4) | Excellent (5) |
|--|--|--|---|---|
| KNOWLEDGE & CONTENT | | | | |
| Adequacy of introduction | Introduction and background information was unfocused; audience did not know what the objectives of the presentation were. | Audience had an idea of the focus and objectives of the presentation, but some of the background was either missing or irrelevant. | Captured audience attention; presented adequate background; objectives were clear by the end of the introduction. | Captured audience attention; presented relevant background, quickly established a focus, and clearly stated objectives of the presentation. |
| Explanation of conceptual approach and methodology | Presented procedures used without demonstrating why those methods were chosen or an understanding of the principles. | Presented overview of experimental approach, and described methods to be used. | Presented details of the chosen experimental approach; accurate description of main principles and key steps of methods. | Gave clear rationale and details for the chosen experimental approach; accurate description of main principles and key steps of methods. |
| Explanation of results | Data was not presented clearly, and/or incorrect explanations of the results were given. | Presented the data obtained from each of the methods; made a good attempt to explain the results. | Presented the data obtained from each of the methods clearly; explained the meaning of each of these results. | Presented the data obtained from each of the methods clearly; provided meaningful interpretation and inter-connections of results |
| Clarity & accuracy of discussion; Critical judgment exercised | Did not show any understanding of the significance and limitations of the research findings | Gave a good effort to explain the significance and limitations of the research findings | Demonstrated good understanding of the significance and limitations of the research findings | Articulated critical judgment and good understanding of the significance and limitations of the research findings |
| Appropriateness of conclusion and take-home message | Ended the presentation abruptly; or a conclusion was presented that did not reflect the main points of the presentation. | Summarized main points of the presentation; audience left with a take-home message. | Summarized main points of the presentation; audience left with a clear take-home message; presentation concluded logically. | Summarized main points in an integrated fashion; audience left with a clear take-home message; presentation concluded logically. |
| Response to questions | Lacked accurate or relevant answers to most of the questions asked. | Made strong effort to answer questions, and handled most questions knowledgeably, but with some hesitation. | Handled most questions knowledgeably and with confidence. | Handled questions knowledgeably and with confidence; demonstrated greater depth of knowledge than what was presented. |

| Category/Rating | <i>Poor (0-3)</i> | <i>Acceptable (3.5)</i> | <i>Good (4)</i> | <i>Excellent (5)</i> |
|------------------------------------|--|--|---|--|
| Flow of information | Presentation of information is disconnected; audience found it difficult to understand the main points and to follow the presentation. | Logical organization of information; some gaps or pauses in the transitions between sub-topics of group members. | Smooth and logical organization of information; transitions between sub-topics and group members were mostly effective. | Smooth and logical organization of information; effective bridging between sub-topics and among group members; easy to follow. |
| Effectiveness of delivery | Reading extensively from notes or the monitor; no eye contact with audience; low volume &/or speaking in a monotone | Spoke in a clear voice at an acceptable pace; occasionally relying on notes or the monitor; made some eye contact with the audience. | Spoke clearly, with good volume and intonation and at a good pace; established good eye contact with the audience | Spoke clearly and confidently, with good volume and intonation and at a good pace; excellent eye contact with the audience |
| Enthusiasm, professionalism | Apathetic presentation of information; distracting gestures, inappropriate demeanor and/or frequent use of slang or colloquialism | Demonstrated interest for the topic. Occasional distracting gestures or inappropriate choice of words. | Demonstrated enthusiasm for the topic; conveyed professionalism in language and demeanor. | Demonstrated a passion for the topic and instilled interest in the audience; conveyed professionalism in language and demeanor. |
| Use of visual aids | Most visual aids were too "busy", &/or had text with too small font size or verbatim to speaker's presentation. | Visual aids were used to convey information to the audience. Some slides may have been difficult to understand or see clearly. | Visual aids were attractive and effectively used to clearly convey information to the audience. | A variety of visual aids was used to capture the attention of the audience and enhance understanding of the presented information. |
| Adherence to time limit | Presentation was longer than 18 minutes or shorter than 12 minutes. | Kept to within three minutes of the prescribed 15 minute time limit | Kept to within two minutes of the prescribed 15 minute time limit. | Kept to within a minute of the prescribed 15 minute time limit! |



University of British Columbia
Faculty of Land and Food Systems
Directed Studies
FRE 499
Registration Form

Date Registered

Initials: _____
FNH Program Advisor

| | | | |
|----------------------|--|-----------------------|--|
| Student Name: | | UBC Student #: | |
|----------------------|--|-----------------------|--|

Select a Term

| | |
|--|--|
| | Sept-Dec (Winter Session, Term 1) |
| | Jan-Apr (Winter Session, Term 2) |
| | Sept – Apr (Winter Session, Terms 1 & 2) |
| | May – Aug (Summer Session, Terms 1 & 2) |

| | | | |
|---------------------------------|--|---------------------------------------|--|
| Start Date (yy/mm/dd) | | Expected End Date(yy/mm/dd) | |
|---------------------------------|--|---------------------------------------|--|

Select all applicable boxes:

| | | | |
|---|--|--|---------------------------------------|
| <input type="checkbox"/> <i>approved institution</i> <i>Canada</i> | <input type="checkbox"/> <i>approved institution</i> <i>international</i> | <input type="checkbox"/> <i>UBC Farm</i> | <input type="checkbox"/> <i>Other</i> |
| Project site: | | | |
| Academic supervisor: | Site supervisor: (If applicable) | | |

Project Proposal Summary

(Include information on learning objectives, work involved, and assessment criteria. Attach extra sheet if necessary)

Learning objectives:

Work involved:

Outcomes/Output/Assessment criteria: Mark for this directed studies will be based on:

| | | |
|-----------------------------------|---|---|
| _____ Student Signature | _____ Academic supervisor signature | _____ Site supervisor signature |
| _____ Date | _____ Date | _____ Date |

| | |
|---|---|
| <p>Faculty: Land and Food Systems Department: N/A Faculty Approval Date: Oct. 18, 2017 Effective Session (W or S): W Effective Academic Year: 2019</p> | <p>Date: November 8, 2017 Contact Person: James Vercammen, Professor, Land and Food Systems Phone: 604-822-5667 Email: james.vercammen@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Bachelor of Science in Food and Resource Economics (FRE)</p> <p>Introduction</p> <p>The B.Sc. in Food and Resource Economics (FRE) allows students to critically analyze a wide range of economic issues in food supply chains, including the resource and environmental impacts of food production. The program consists of interdisciplinary courses in land and food systems, math and empirical methods courses, restricted elective courses, primarily in economics and business, and unrestricted electives. Students with an interest in agri-business and resource management can choose the Food and Resource Management stream, or apply for the Master of Management Dual Degree Program Option. Students who complete the B.Sc. (FRE) program are well suited to pursue graduate studies within the Masters of Food and Resource Economics (UBC), the School of Public Policy and Global Affairs (UBC) and various applied economics M.Sc. programs outside of UBC. Students can specialize or mix-and-match from the three topic areas:</p> <ul style="list-style-type: none"> • Food Markets and Trade • Land, Resources and Environment • Food and Resource Management. | <p>URL: N/A <i>[please create a calendar page]</i></p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create a new undergraduate BSc degree program in the Faculty of Land and Food Systems (LFS)</p> <p>Rationale for Proposed Change: The importance of safe and affordable food from a trusted source continues to grow in importance for consumers and firms that operate within food supply chains. Similarly, the sustainable use of relevant natural resources such as land and water, and the environmental impact of food production and marketing (e.g., greenhouse gases, nutrient contamination of waterways) continues to grow in importance. In most universities that have an agricultural focused faculty there exists one or more degree options for students who wish to study the economics and management of food supply chains, including how these supply chains relate to natural resource and environmental systems.</p> <p>UBC students in the Food, Nutrition and Health (FNH) program in the Faculty of Land and Food Systems (LFS) can currently choose to major in Food Market Analysis. This major addresses some of the issues described above but there are many gaps because the science-based degree requirements leave students with limited options for achieving breadth in economics and management. A September, 2017 survey of students who are taking various Food and Resource Economics (FRE) courses reveals strong student interest in the proposed program. The full details of the survey are available upon request. An appealing feature of the proposed program is that it provides students with defined employment opportunities (e.g., agri-finance) as well as a clear path to graduate study at both UBC and most North American and overseas universities.</p> <p>The Food and Resource Economics (FRE) group consists of five tenured faculty members and three non-tenure track instructors. This group manages the highly successful 12 month Masters of Food and Resource Economics professional masters' program, which is now in its 9th year and currently has 40 students. The nine undergraduate courses that the FRE group regularly offers are well populated by non-majors from the Faculty of Land and Food Systems and various other UBC faculties and departments. This is important because it means that</p> |

Advising Office

See the Academic Advising Office.

Admission

Students can apply to the Food and Resource Economics program after completing 24 credits of post-secondary level courses, including: LFS 150 or ENGL 100-level (see note 1 below); MATH 104 (see note 2 below), ECON 101 and either MATH 105 (see note 2 below) or ECON 102. To be considered, students are required to have a minimum academic standing of at least 70% (or 2.80 on a 4-point scale). Achievement of this minimum, however, does not guarantee admission. Due to receipt of many more qualified applicants than there are spaces available in most programs, a higher average is often required.

To help assess suitability students must submit with their application a 500 word (maximum) Letter of Intent which addresses the following: a) why the student wishes to enroll in the Food and Resource Economics program; b) the student's professional aspirations; and c) any relevant personal, volunteer, or work experience. The letter of intent is to be submitted to the Faculty of Land and Food Systems Student Services at the time of application (instructions are provided at <http://www.landfood.ubc.ca/academics/undergraduate/ug-admissions/>)

While not required, students interested in applying to the Bachelor of Science in Food and Resource Economics are strongly encouraged to follow the first-year requirements of the Food and Resource Economics Degree.

FRE courses will not be under-utilized even if enrollment in the proposed degree program starts out small.

When you have supporting documents for Category 1 proposals please label each document with the course number, or the name of the program, being proposed.

☐

Not available for Cr/D/F grading (undergraduate courses only)

(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)

Rationale for not being available for

Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.

☐

Pass/Fail or

☐

Honours/Pass/Fail grading

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)

| | |
|--|----|
| Degree Requirements and Program Options | |
| Bachelor of Science in Food and Resource Economics | |
| First Year | |
| LFS 100 | 1 |
| LFS 150 or ENGL 100-level ¹ | 3 |
| BIOL 121 | 3 |
| MATH 104 & 105 ² | 6 |
| ECON 101 & 102 | 6 |
| Electives ³ | 12 |
| Total credits | 31 |
| Second Year | |
| LFS 250 | 6 |
| One of APBI 200, FHN 200, FNH 250 | 3 |
| FRE 306 | 3 |
| LFS 252 ⁴ | 3 |
| ECON 301 and three of ECON 221, 234, 255, 302, 303, 339, 360, 365 ⁵ | 12 |
| Unrestricted elective | 3 |
| Total credits | 30 |
| Third Year | |
| LFS 350 | 3 |
| FRE 394 | 3 |
| FRE 326 ⁶ and one of FRE 385, FRST 399, GEOB 270 | 6 |
| FRE Topic Courses ⁷ | 6 |
| Supporting Topic Courses ⁸ | 3 |
| Restricted electives ⁹ | 6 |
| Unrestricted elective | 3 |
| Total credits | 30 |
| Fourth Year | |

| | | |
|---|------------|--|
| FRE 426 ⁶ and one of FRE 385, FRST 399, GEOB 270 | 6 | |
| FRE Topic Courses ⁷ | 6 | |
| Supporting Topic Courses ⁸ | 9 | |
| Restricted electives ⁹ | 6 | |
| Unrestricted Elective | 3 | |
| Total credits | 30 | |
| Overall 4 Year Total Credits¹⁰ | 121 | |
| <p>1. ENGL 112 recommended.</p> <p>2. Students may substitute MATH 100, 102 or 110 for MATH 104, and MATH 101 or 103 for MATH 105. Students who have not completed Calculus 12 should take MATH 184 as a substitute for MATH 104.</p> <p>3. It is recommended that students take a minimum of 6 credits of 100, 200 level courses that contribute toward interdisciplinary breadth. This includes courses in science (e.g., biology), geography, sociology, psychology and political science.</p> <p>4. Students who are admitted into the program with ECON 325 can use it to substitute for LFS 252. Students in the program may not substitute ECON 325 for LFS 252 but may substitute STAT 200, BIOL 300 or FRST 231 for LFS 252.</p> <p>5. Students must complete their first year MATH requirement before taking ECON 301, 302 and 303, and must take ECON 301 and other prerequisites before taking 400 level ECON courses.</p> <p>6. Students who are admitted into the program with ECON 326 can use it to substitute for FRE 326, and with ECON 425 can use it to</p> | | |

| | |
|--|--|
| <p>substitute for FRE 426. Students in the program may not substitute ECON 326 for FRE 326, or ECON 425 for FRE 426. FRE 326/426 cannot replace ECON 325/326 as prerequisites within the various VSE programs.</p> <p>7. Choose from FRE 302, 340, 374, 420, 460 and 490. Recommended: FRE 340 and 460 (Food Markets and Development), FRE 374 and 420 (Land, Resources & Environment) and FRE 302 and either FRE 460 or FRE 420 (Food and Resource Management).</p> <p>8. There are three topic areas (see note 7). Students can specialize by choosing all supporting courses from one topic area or can achieve breadth by choosing supporting courses from multiple topic areas. Acceptable courses are listed on the Food and Resource Economics website.</p> <p>9. Choose any eligible 300 or 400 level course in COMR, ECON and FRE. Students with a strong interest in research should take FRST 399 and consider having a FRE faculty member supervise a directed studies course (FRE 497) and/or a 6 credit thesis (FRE 499).</p> <p>10. A minimum of 45 credits required for the Major must be from courses numbered 300 or higher.</p> | |
|--|--|

1. FRE 326

Category: 1

Proposed Calendar Entry:

FRE 326 (3) Empirical Methods for Food and Resource Economics

Introduction to empirical methods with applications for problems in food and resource economics; standard linear regression and methods to address data deficiencies; interpretation of regression results for forecasting and policy analysis.

Prerequisite: One of LFS 252, STAT 200, BIOL 300

URL: N/A

Present Calendar Entry: N/A

Type of Action:

New course

Rationale for Proposed Change:

An important component of the proposed BSc in Food and Resource Economics degree program is empirical analysis. The proposed course (FRE 326) is the first of a two-course suite on empirical and econometric analysis with applications for food and resource economics. The content of the proposed course is similar to ECON 326 with two important exceptions. First, the applications will be given more emphasis and will be chosen from current issues in food and resource economics such as biofuels and water quality. Second, more emphasis will be given to specifications of the regression model that are commonly used in food and resource economic applications (e.g., randomized control trials, average treatment effects, temperature buckets).

☐

Not available for Cr/D/F grading (undergraduate courses only)

(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)

Rationale for not being available for

Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.

☐

Pass/Fail or

☐

Honours/Pass/Fail grading

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)

2. FRE 426

Category: 1

Proposed Calendar Entry:

FRE 426 (3) Econometric Analysis for Food

URL: N/A

Present Calendar Entry: N/A

| | |
|---|---|
| <p>and Resource Economics</p> <p>Econometric methods with policy-focused applications for problems in food and resource economics; quasi-experimental data, identification and instrumental variables, discrete choice, panel data, difference-in-difference and introduction to time series.</p> <p>Prerequisite: FRE 326 or STAT 306</p> | <p>Type of Action: New course</p> <p>Rationale for Proposed Change:</p> <p>An important component of the proposed BSc in Food and Resource Economics degree program is empirical analysis. The proposed course (FRE 426) is the second of a two-course suite on empirical and econometric analysis with applications for food and resource economics. The content of the proposed course has some overlap with ECON 425 but overall is less theoretical and the applications are more typical of what is being used in food and resource economics research. Specifically, less emphasis is given to the theoretical properties of the estimators and more emphasis is given to identification strategies when working with quasi-experimental data, estimation of average treatment effects, fixed and random effects specifications with panel data and time series methods for estimating trends and structural breaks in commodity price data.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |
| <p>3. FRE 394</p> <p>Category: 1</p> | |
| <p>Proposed Calendar Entry:</p> <p>FRE 394 (3) Government and Business</p> <p>Roles of government and business in the Canadian economy including effects of public policy on the business environment. Ethical foundations of government,</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change:</p> |

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| <p>business and personal decision-making.</p> <p>Prerequisite: One of COMM 295, ECON 301.</p> <p>Equivalency: COMM 394</p> | <p>This course is a cross-listing for an existing undergraduate course in the Sauder School of Business (COMM 394). Currently FRE 295 and COMM 295 (Managerial Economics) are cross listed. Students in the proposed program will not take FRE 295 because it is not considered equivalent to ECON 301, which is a pre-requisite for most 400 level courses that are offered by the Vancouver School of Economics. The cross listing of FRE 394 with COMM 394 can be viewed as a replacement for the cross-listing of FRE 295 and COMM 295. Non-Commerce students are not allowed to register in COMM 394 but with cross listing the desired outcome can be achieved. COMM 394 is very well suited to the proposed program because of its policy focus (e.g., cost-benefit analysis and public goods) and its strong focus on business ethics.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |
| <p>4. FRE 497</p> <p>Category: 1</p> | |
| <p>Proposed Calendar Entry:</p> <p>FRE 497 (2–6) c Directed Studies in Food and Resource Economics</p> <p>Prerequisite: Approval of program advisor.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change:</p> <p>The other degree programs in the Faculty of Land and Food Systems (Food Nutrition and Health, Applied Biology and Global Resource Systems) all have a 400 level, two to six credit, directed studies option for their students. The proposed directed studies course will ensure that students in the proposed degree program will have this same option.</p> |

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| | <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |
| <p>5. FRE 499</p> <p>Category: 1</p> | |
| <p>Proposed Calendar Entry:</p> <p>FRE 499 (6) Undergraduate Thesis</p> <p>Design and execution of an experimental/analytical research project leading to preparation of a thesis.</p> <p>Prerequisite: Approval of a program advisor; consult before the end of classes in third year.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change:</p> <p>Two of the other degree programs in the Faculty of Land and Food Systems (Food Nutrition and Health and Applied Biology) have a 400 level six credit undergraduate thesis option for their students. The proposed undergraduate thesis course will ensure that students in the proposed degree program will have this same option. This course is particularly important for students anticipating pursuing a research-focused masters degree in applied economics.</p> <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be |

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| | graded on a P/F or H/P/F basis. Default grading is percentage.) |
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28 February 2018

To: Vancouver Senate

From: Senate Curriculum and Admissions Committees

Re: Master of Science in Medical Physics and Doctor of Philosophy in
Medical Physics (approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Graduate and Postdoctoral Studies (Science) and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Master of Science in Medical Physics degree program and the new Doctor of Philosophy in Medical Physics degree program and its associated new course be approved.”*

Respectfully submitted,

Dr. Peter Marshall, Chair, Senate Curriculum Committee
Dr. Carol Jaeger, Chair, Senate Admissions Committee



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

Science

New degree program and new courses;

Master of Science in Medical Physics; Doctor of Philosophy in Medical Physics; PHYS

546 (2) Clinical Experience in Medical Physics

Master of Science in Medical Physics

Department of Physics and Astronomy

Faculty of Science

University of British Columbia

November, 2017

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1 Executive Summary

The Department of Physics & Astronomy at the University of British Columbia at Vancouver proposes to offer a degree program for Master of Science in Medical Physics. It will be an evolution of the training in medical physics that has been offered as a stream within the Master of Science in Physics degree program since the 1950s. It should be noted that UBC already offers a degree program in Medical Physics at its Okanagan campus.

Graduates of the M.Sc. in Medical Physics program will:

- understand the physics of medical imaging and radiation oncology;
- be able to apply medical physics theory to frontier research;
- work effectively in clinical and research environments that include oncologists, radiologists, nuclear medicine physicians, cardiologists, neuroscientists, radiation therapy professionals and biomedical engineers;
- be highly competitive in the Canadian and international medical physics labour markets;

The Master of Science in Medical Physics requires a total of 38 credits: 26 credits of coursework and a 12 credit research thesis. This work is normally done over 2 years. The curriculum complies with the requirements of the Commission on Accreditation of Medical Physics Education Programs. Graduates may then choose to enter residency programs in medical physics (typically 2 additional years).

Most of the coursework credits are for lecture courses or seminars at UBC Vancouver or BC Cancer Agency. Some lectures are shared by video between University of Victoria, UBC-Vancouver, and UBC-Okanagan. Some credits are for clinical experience at BC Cancer Agency and Vancouver General Hospital. Thesis research projects are typically in collaboration with TRIUMF, BC Cancer Agency, or Djavad Mowafaghian Centre for Brain Health.

The M.Sc. in Medical Physics degree program is expected to attract essentially the same type and number of students that currently enter the Medical Physics stream of the M.Sc. in Physics degree program, which currently has 10 students. In 2016, there were 45 applicants, of which 8 were accepted and 2 enrolled. Some of the M.Sc. students already have a Ph.D. in another field and wish to change career to Medical Physics.

In BC alone, population growth and replacement of retirements requires about 5 new radiotherapy physicists each year. Growing demand for advanced medical imaging (CT, MRI, PET) creates a similar requirement for imaging physicists. BC also exports medical physics graduates to provinces lacking medical physics training programs, the US, and the rest of the world.

2 Overview

2.1 Introduction

UBC's Department of Physics and Astronomy in the Faculty of Science has a long history of graduate training in Medical Physics. The Department's first pair of core Radiation Therapy Graduate courses, Physics 534 and 535, were offered in the 1950's. The first MSc with a focus on Medical Physics was awarded in 1956 and the first such PhD was awarded in 1991. Since the early 1990s the number of graduate degrees awarded in Medical Physics increased substantially. Medical Physics-focused graduate teaching expanded in the early 2000s with the introduction of seven new courses covering imaging and radiation therapy concepts.

The proposed program "MSc in Medical Physics" will continue to comply with the international regulatory body granting accreditation – the Commission on Accreditation of Medical Physics Education Programs (CAMPEP www.campep.org). Without this accreditation, graduates of this program would not be able to establish themselves in the medical-physics profession within the Health Care sector. A Medical Physics stream of the graduate Physics Program was initially accredited by CAMPEP in December 2003 and has been re-accredited in five-yearly intervals. The next re-accreditation is scheduled for 2018.

We currently have approximately 30 students working on graduate degrees in the medical physics stream; approximately 1/3 are MSc students and 2/3 are PhD students. Slightly over ½ are working in imaging research projects with the complement working on radiation therapy research projects.

The department is now seeking to formalize the Medical Physics Program in order to appropriately recognize the unique academic requirements as distinguished from a Master of Science in Physics. The creation of this specific Medical Physics degree will enable us to better enforce the terms of Accreditation and will give our graduates full recognition for the special courses and clinical experience schedule they have undertaken.

2.2 Credential

The proposed credential awarded will be a Master of Science in Medical Physics. This degree will be a Master's degree in accordance with the accreditation requirements of CAMPEP (Committee for the Accreditation of Medical Physics Education Programs). It will also contain a research component equal to that in a Master of Science in Physics.

2.3 Location

The University of British Columbia's Point Grey campus and the BC Cancer Agency (Vancouver Cancer Centre) are the location of classroom/practical education. The administration of the program will occur from the Point Grey campus.

2.4 Faculty Offering Program

The Department of Physics and Astronomy housed within the Faculty of Science will offer the program. The program will be co-directed by one faculty member from the Department of Physics and one Associate or Adjunct Faculty Medical Physicist from the BC Cancer Agency.

2.5 Program Start Date

The program will be first offered starting September 2018. Students already enrolled in the existing Medical Physics stream may remain there and obtain a Master of Science in Physics, or transfer to the Medical Physics degree program. The renewal application for CAMPEP accreditation (expires on December 31, 2018) will be based on the new program structure.

2.6 Program Completion Time

The anticipated completion time for the program is 2 years of full-time academic study.

2.7 Objectives and Program Learning Outcomes

The primary objectives of the proposed program are:

- To provide comprehensive, high quality, CAMPEP-accredited graduate degrees in medical physics leading to M.Sc. qualifications.
- To foster creative and vibrant interdisciplinary research between UBC Physics, BC Cancer Agency, Regional Health Authorities, allied UBC departments and initiatives (Engineering, Chemistry, Math, Computer Science, Statistics, Biology, and the Brain Research Centre) and TRIUMF.
- To attract talented students and train the next generation of medical physics professionals for subsequent employment within health, education, government and industrial sectors.
- To collaborate with the UBC-O and University of Victoria accredited medical physics programs, and BCCA's accredited medical physics residency program to provide a united provincial vision for medical physics education and research with regional and international impact.

2.8 Contributions to UBC's Mandate and Strategic Plan

Graduates will be equipped to pursue careers in hospitals, specialized areas of medicine (e.g. cancer treatment and research and brain research), government, industry and other medical research environments. Their work is interdisciplinary in nature and in many cases, translates to innovative solutions to real world medical problems relating to diagnosis and treatment of many disease types from cancer to brain and cardiac research.

Many of our medical physics faculty hold associate or adjunct professor status in the Department of Physics and Astronomy but have primary appointments in Departments of the Faculty of Medicine (Radiology, Surgery, Oncology) or work at the BC Cancer Agency Treatment or Research Centres. The faculty provides unique and invaluable teaching contributions and provides students with insight into state-of-the-art clinical and research applications of medical physics.

The program supports the creation of an exceptional learning environment (UBC Place and Promise) through

- *Student Learning:* The multidisciplinary and multi-institutional teaching structure within the proposed program is a truly unique learning environment that capitalizes on local and provincial expertise in medical physics in order to deliver a comprehensive medical physics curriculum of exceptionally high quality recognized through international accreditation.
- *Research Excellence & Community Engagement:* The Graduate Program in Medical Physics at UBC-Vancouver will increase research capacity, strengthen our partnership with the provincial BC Cancer agencies, and provide training to meet the growing national and international demand for medical physicists. The program will create a strong link between UBC Science and the Medicine, including BC Cancer Agency, PHSA and Vancouver Coastal Health, with extension to the wider British Columbian health care community through engagement of associate and adjunct faculty with shared research interests.

2.9 Delivery Methods

The program consists of 26 credits of course work including laboratory, clinical experience and seminar content, and a Master's thesis research project.

- Intra-provincial course curriculum (joint with the UBC-Okanagan Campus and the University of Victoria), with delivery through:
 - In-house and video-linked course lectures
 - Laboratories within a clinical environment
- Graduate student research seminar series;
- Comprehensive research projects, typically in collaboration with the BC Cancer Agency, the Brain Research Centre, or TRIUMF.

2.10 Linked Learning Outcomes and Curriculum Design

Graduates of the M.Sc. in Medical Physics Program will:

- be highly competitive in the Canadian and international medical physics labour markets;
- obtain a comprehensive understanding of the fundamental underpinnings of medical physics, with concentration on imaging and radiation oncology physics, through the completion of a comprehensive course curriculum;
- gain experience in the application of medical physics theory to cutting edge research through the completion of a rigorous thesis project;
- work effectively in collaborative and cross-disciplinary clinical and research environments that include oncologists, radiologists, nuclear medicine physicians, cardiologists, neuroscientists, radiation therapy professionals and biomedical engineers;

The curriculum is designed to prepare students for potential sectors of employment including:

- Radiation medicine
- Medical Imaging
- Medical instrumentation research and development
- Ionizing Radiation Standards
- Radiation Safety Regulatory

2.11 Program Strengths

The program has been delivering a comprehensive, accredited curriculum in diagnostic and functional imaging and radiation oncology physics since 2003.

The program will capitalize on research strengths within the Vancouver area medical physics community, e.g. radiation therapy, magnetic resonance imaging (MRI) and nuclear medicine imaging (PET and SPECT) for brain, cardiac and cancer imaging, and high energy nuclear physics.

Research conducted within the program can directly contribute to provincial health care initiatives through engagement of associate and adjunct faculty based in local health care institutions.

2.12 Related Programs at UBC and other BC Post-Secondary Institutions

Since 2016, UBC-Okanagan together with the BC Cancer Agency (Centre for Southern Interior) has offered a graduate program (MSc and PhD) in Medical Physics within the Irving K Barber

School of Arts and Science Unit 5. Recently, this new program has gained provisional CAMPEP accreditation and admitted its first two students in 2016. The current application here at UBC-Vancouver is very similar to the program at UBC-Okanagan. Due to the minor differences (outlined in Section 3.3.1) we argue that a full ministerial program review is not required.

The UBC-Vancouver program closest in content to the Medical Physics Program is the Biomedical Engineering M.A.Sc. program. Our Medical Physics courses are available to students in the Biomedical Engineering program; e.g. most of their students take our Physics 545 course on Anatomy, Physiology and Medical Statistics and many take PHYS 540 Image Reconstruction. However, there is currently little overlap between research areas in the two programs. The two programs can be considered as complementary to each other.

The University of Victoria in cooperation with BC Cancer Agency (Vancouver Island Centre) offers training in Medical Physics as streams in the M.Sc. and Ph.D. in Physics and Astronomy. UVic also offers a course-only Certificate in Medical Physics for students with a previous Ph.D. in physics or a related field.

Today, our program is one of twelve CAMPEP Accredited Medical Physics programs in Canada (Alberta, UBC-Vancouver, UBC-Okanagan, Calgary, Carleton, Dalhousie, Laval, Manitoba, McGill, Ryerson, Victoria and Western) and there are 50 CAMPEP accredited programs in North America, one in South Korea and one in Ireland. Medical Physics is still a growth area and there are a few active (but not yet accredited programs in Canada). The largest of the non-accredited Medical Physics programs are at Toronto and McMaster.

2.13 Institutional Contacts / Proponents

Stefan A. Reinsberg
Department of Physics and Astronomy
stefan@phas.ubc.ca
604-822-2925

3 Program Description and Specification

3.1 Need for the Program

Medical physicists are health care professionals with specialized training in the medical applications of physics. Their work often involves the use of x-rays and accelerated charged particles, radioactive substances, ultrasound, magnetic and electric fields, infra-red and ultraviolet light, heat and lasers in diagnosis and therapy. Most medical physicists work in hospital diagnostic imaging departments, cancer treatment facilities, or hospital-based research establishments. Others work in universities, government, and industry.

The need for graduates in Medical Physics can be derived from current data on health care needs: 50% of Canadians can expect to require treatment for cancer in their lifetime, roughly half of which will receive radiation therapy. The annual 3% increase in cancer cases requiring radiotherapy in the BC Cancer agency is in line with the increase in the Canadian population overall. The recommended staffing levels in radiotherapy physics alone is 1 qualified medical physicist per approximately 260 patients. Since the BC Cancer Agency currently treats more than 10,000 cases per year, one additional qualified medical physicist will be required due to population increase alone per year. In addition, with an aging workforce of baby boomers and expected retirement boom in medical physics starting in 2019, we will require a replacement of about 4 FTE per year across the province in BC alone. From the needs within the province, there is a need to have 5 graduates specializing in radiotherapy physics per year, starting in 2019. While the need for radiotherapy medical physicists scales similarly for all provinces across Canada, some provinces are severely underserved by graduate programs: This means UBC's very strong medical physics program will also export to the rest of Canada (and from experience of our past alumni to the US and rest of world). Access to radiotherapy in developing countries is becoming a problem as other diseases are being more effectively treated and people are living long enough to suffer from cancer. An urgent need is emerging which will require export of qualified medical physicists and the education of foreign students who will return to their countries after medical physics graduate education at UBC.

It is important to keep in mind that the training cycle including courses, thesis, and residency is 4 years for an MSc and 6 years for a PhD. Residency is a mandated requirement for medical physicists due to their increased involvement in patient care. Access to residency programs is only possible for graduates from CAMPEP accredited programs such as the one at UBC.

The above analysis is focussed on radiotherapy since, historically, most medical physicists were employed in that field. As a result, long-term statistics are available for this field. However, imaging, the other large medical physics sub-specialty, is quickly demanding more graduates: Magnetic Resonance Imaging (MRI), Positron-Emission Tomography (PET), Ultra-sound (US) and diagnostic imaging (X-Ray & CT) are being increasingly used in the diagnosis, staging and treatment planning for cancer therapy as well as brain care, heart and lung, arthritis and many other diseases. PET imaging is currently expanding outside of Vancouver, to Victoria and Kelowna in 2017-2018, creating a need for more imaging physicists in the clinical environment.

Health Canada recently published [Safety code 35](#) which also speaks to the need for qualified imaging physicists. In the community, there is the expectation that analogously to safety code 35 (focussed on X-ray equipment), similar safety codes will be developed for MRI, Nuclear Medicine Imaging, and Ultrasound. This will further put demand pressure on the medical physicist job market.

3.1.1 Choice between MSc and PhD program

Both the MSc and PhD medical physicist are eligible to sit the Canadian College of Physicist in Medicine exam which awards the credential for clinical practice. However, when working in health care, they are expected to perform different tasks. Further, different employment environments have different needs.

The role of PhD medical physicists often includes a stronger emphasis on research and education. As the faculty in our UBC Medical Physics program shows, many of our courses are taught by PhD physicists who practice clinically and are employed in health care. Research in medical physics is also predominantly facilitated by PhD medical physicists who work in the field and understand the problems that need to be solved. Again, supervisors in our program are largely PhD medical physicists who are working at the BCCA or in medical imaging facilities.

Students who plan for employment in academically active health-care environment with a strong emphasis on teaching and research will be pursuing a PhD in Medical Physics.

However, in smaller clinical settings, we still need well trained medical physicists but they don't have as much opportunity to teach and drive research. In such places employers will find it hard to retain PhD medical physicists. Currently, our applicants are choosing the MSc for other reasons as well: Some applicants already hold a PhD in a related field but require the qualification to enter medical physics residency. An MSc will get them that qualification faster than a 2nd PhD. Other students are aware of the job offerings to MSc Medical Physicists and prefer to reach the job market sooner.

The Canadian public is best served by a mixture of well-trained MScs and PhD's so that employers have a good selection from which to meet their needs.

3.2 Program Objectives and Themes

The primary objectives of the proposed program are:

- To provide comprehensive, high quality, CAMPEP-accredited graduate degrees in medical physics leading to M.Sc. qualifications.
- To foster creative and vibrant interdisciplinary research between UBC Physics, BC Cancer Agency, Regional Health Authorities, allied UBC departments and initiatives (Engineering, Chemistry, Math, Computer Science, Statistics, Biology, and the Brain Research Centre) and TRIUMF.

- To attract talented students and train the next generation of medical physics professionals for subsequent employment within health, education, government and industrial sectors.
- To collaborate with the UBC-O and University of Victoria accredited medical physics programs, and BCCA's accredited medical physics residency program to provide a united provincial vision for medical physics education and research with regional and international impact.

3.3 Relationship to Established Programs

At UBC-Vancouver Department of Physics and Astronomy / Medical Physics Graduate Stream: The department has been offering a successful stream in the physics department since 2003. This program will formally replace this stream.

At UBC-Okanagan: Since 2016, UBC-Okanagan together with the BC Cancer Agency (Centre for Southern Interior) has offered a graduate program (MSc and PhD) in Medical Physics within the Irving K Barber School of Arts and Science Unit 5. Recently, this new program has gained provisional CAMPEP accreditation and admitted its first two students in 2016. The current program application is very similar to the one recently approved at UBC Okanagan owing to the strict accreditation requirements of CAMPEP. Similarities and minor differences are outlined in Section 3.3.1.

At University of Victoria: The University of Victoria in cooperation with BC Cancer Agency (Vancouver Island Centre) offers training in Medical Physics as streams in the M.Sc. and Ph.D. in Physics and Astronomy. UVic also offers a course-only Certificate in Medical Physics for students with a previous Ph.D. in physics or a related field.

At The University of British Columbia: The UBC-Vancouver program closest in content to the Medical Physics Program is the Biomedical Engineering M.A.Sc. program. Our Medical Physics courses are available to students in the Biomedical Engineering program; e.g. most of their students take our Physics 545 course on Anatomy, Physiology and Medical Statistics and many take PHYS 540 Image Reconstruction. However, there is currently little overlap between research areas in the two programs. The two programs can be considered as complementary to each other.

Elsewhere: Today, our program is one of twelve CAMPEP Accredited Medical Physics Programs in Canada (Alberta, UBC-V, UBC-O, Calgary, Carleton, Dalhousie, Laval, Manitoba, McGill, Ryerson, Victoria and Western) and there are 50 CAMPEP accredited programs in North America, one in South Korea and one in Ireland. Medical Physics is still a growth area and there are a few active (but not yet accredited programs in Canada). The largest of the non-accredited Medical Physics programs are at Toronto and McMaster.

3.3.1 Similarities and Minor Difference to UBC-Okanagan Program Application

Both program applications share the same objectives and are aligned in the same way with the UBC Mandate and Strategic Plan. Similarly, the context, demand and expected interest for the program is the same. A major operational difference is that a UBC Medical Physics Stream has been offered since 2003 in the Department of Physics and Astronomy. The years of experience in running this stream provide considerable confidence in a sustainable future of the program.

The courses as part of the MSc degree at UBC-Okanagan and UBC-Vancouver map nearly one-to-one. The main difference is the UBC-Vancouver requirement for PHYS 500 (a graduate-level course in Quantum Mechanics). This course requirement exemplifies the strong Physics foundation that is expected of the graduates of the Medical Physics program in UBC-Vancouver.

| UBC-V Course Number | UBC-O Course Number | comment |
|----------------------------|------------------------|--|
| PHYS 500 (3) | | Graduate Level QM not required at UBC-O |
| PHYS 534 (3) | PHYS 534 (3) | |
| PHYS 535 (3) | PHYS 535 (3) | Initially UBC-O offered PHYS 535 as an elective; recent CAMPEP accreditation rules make this a required core course. |
| PHYS 536 (3) | PHYS 544 (3) | |
| PHYS 539 (3) | PHYS 539 (3) | |
| PHYS 540 (3) | PHYS 540 (3) | |
| PHYS 545 (3) | PHYS 547 (1) | The UBC-V course includes a module on Statistics in Medical Physics Practice which explains the higher credit count at UBC-V. |
| PHYS 546 (2) | PHYS 546 (2) | |
| PHYS 541 (3) (elective) | | These elective courses have been offered for a long time at UBC-V and underline the strength in the diverse offerings of the UBC-V program |
| PHYS 542 (3) (elective) | | |
| PHYS 543 (3) (elective) | | |

3.4 Demand for the Program

There are about 600 medical physicists working in Canada: 75% work in hospitals and hospital-based research establishments, 7% work for government, 8% for industry, and an additional 10% are university faculty who are not hospital-based. An M.Sc. is considered a minimum qualification for obtaining a job in this field.

In British Columbia, there are growing opportunities for medical physicists. Current employers of radiation therapy physicists are the six BC Cancer Centres (Victoria, Vancouver, Surrey,

Kelowna, Abbotsford and Prince George), the BC Cancer Research Centre, the BC Health Authorities and the University of British Columbia. There are nearly 30 Cancer Centres in Canada. Many of the larger hospitals in Canada hire diagnostic imaging physicists.

The analysis under *2.1 Need for the Program* leads to the conclusion that UBC's medical Physics programme needs to enrol at least 5 graduate students per year to meet the demand in radiotherapy alone in this province. This figure should be doubled to meet demand of imaging physicists in BC and medical physics employers outside the province – this will require that both programs at UBCO and University of Victoria contribute significantly to the number of graduates in BC.

3.5 Student Interest and Enrolment Expectations

The enrollment of medical physics graduate students in the Department of Physics and Astronomy has been stable over the past 15 years. The number of Medical Physics jobs in Canada is growing by 5-10% per year. Enrollment in our undergraduate 'Introduction to Medical Physics' course, Physics 404 has currently passed 45 registered students – many of these may go on to do graduate work in Medical Physics at UBC and other universities. The undergraduate Biophysics and Engineering Physics programs at UBC provide an excellent source for medical physics graduate students, but we also acquire students from other Canadian as well as international universities.

Application and Enrolment data from past years are given in the following table:

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|
| Applicants PhD | 11 | 14 | 13 | 13 | 17 | 15 |
| Applicants MSc | 29 | 24 | 29 | 33 | 41 | 45 |
| Accepted PhD | 2 | 4 | 5 | 4 | 5 | 2 |
| Accepted MSc | 8 | 3 | 9 | 11 | 6 | 8 |
| Enrolled PhD | 0 | 3 | 3 | 3 | 5 | 3 |
| Enrolled MSc | 4 | 3 | 3 | 5 | 1 | 2 |

Typically, there are approximately 30 graduate students in UBC Physics and Astronomy working on thesis projects involving radiation therapy, cancer imaging, nuclear medicine and magnetic resonance imaging. With the recent acquisition of new Adjunct/Associate Faculty and the establishment of a formal degree program, we anticipate increasing our graduate student intake. Our main limit on numbers of medical physics graduate students is the ability of our Faculty to take on and supervise students.

3.6 Admission Requirements

Applicants to the program are admitted as part of the general admission of graduate students in the Department of Physics and Astronomy. Admission requirements to this program (MSc in Medical Physics) are the same as to MSc in Physics: The prerequisite for the program is either: a B.Sc. in physics (single or combined), astronomy, or mathematics; or, a B.A.Sc. in engineering physics or electrical engineering. Applicants with a degree in an engineering discipline or another of the physical sciences are expected to have undertaken coursework that is the equivalent of a minor in physics (i.e., one that includes at least three upper-level undergraduate physics courses that would be required for a physics major). An overall average of 80% or better in third- and fourth-year courses is expected for entry into the program.

3.7 Program Requirements

3.7.1 Course Requirements

The program is organized into 8 core courses (23 credits) and 3 electives (3 credits) resulting in a minimum number of course credits of 26:

| | |
|------------------------------|---|
| PHYS 500 (3) | Quantum Mechanics I |
| PHYS 534 (3) | Radiotherapy Physics I |
| PHYS 535 (3) | Radiotherapy Physics II |
| PHYS 536 (3) | Advanced Radiation Biophysics |
| PHYS 539 (3) | Radiation Dosimetry |
| PHYS 540 (3) | Radiological Imaging |
| PHYS 545 (3) | Anatomy, Physiology and Statistics for Medical Physicists |
| PHYS 546 (2) | Clinical Experience in Medical Physics (New Course) |
| PHYS 541 (3-elective) | Nuclear Medicine |
| PHYS 542 (3-elective) | Nuclear Magnetic Resonance Imaging |
| PHYS 543 (3-elective) | Biomedical Optics |

Students are usually able to finish their course work in term 1 and 2 of their first year but might have to take an elective in a subsequent term. The PHYS 546 Clinical Experience course stretches over 2 years.

3.7.2 Research Thesis Requirement

The program requires the completion of a research thesis (12 credits). All M.Sc. students must give a public presentation of their research work. This can be done at a research seminar in the department, or as an oral presentation at a conference, workshop, or meeting.

3.8 Program Overview

Requirements for the completion of an M.Sc. degree in Medical Physics include:

- 26 course credits as outlined above. Students need to meet the requirements of 'Satisfactory Progress' as defined by the Faculty of Graduate and Postdoctoral Studies.
- 12 thesis credits (Phys 549).
- Submission of a written research thesis, along with an oral presentation of the research and thesis.

3.9 Resources

Human Resources

We are currently delivering the Medical Physics Stream inside the Graduate Program of the Department of Physics & Astronomy. The proposal transitions this stream into a stand-alone program, but still inside the Department of Physics & Astronomy. Courses and student supervision will continue to be delivered by the faculty and hence there are no changes required. Hence, there is a net zero budget impact from the creation of this program.

Space

As above, there is no change in space requirements from the creation of this program. The program will be delivered in the classrooms as previously. Many of the courses are held at the BC Cancer Agency and Vancouver General Hospital.

Library

The result of the Library consult (attached) is "The Proposal has an impact on the Library and can be supported."

4 APPENDIX A: Existing and New Courses Directly Identified with the Program

Core courses

The following lists the courses suitable for students in the medical physics program. Core subjects are completed by all students (unless they have already taken an equivalent graduate level course elsewhere). Elective subjects are chosen for their relevance to the student's research field and additional subjects are available, if appropriate, for an individual student. Courses which have been designed primarily for the Medical Physics program (core and elective) are covered in more detail in Appendix I.

PHYS 500 Quantum Mechanics I (3 credits) Non-relativistic quantum mechanics with applications to atomic, nuclear and particle physics. Elementary field-theory techniques for many-body systems. The Dirac equation. Introduction to the quantum field theory of electrons and photons.

PHYS 534 Radiotherapy Physics I (3 credits) Basic principles of the production of X-rays and charged particles. Devices and their operation for producing radiation for use in therapeutic radiology. The interactions of photons and electrons in matter.

PHYS 535 Radiotherapy Physics II (3 credits) Physics and applied dosimetry of current external and internal therapeutic irradiation techniques.

PHYS 536 Advanced Radiation Biophysics (3 credits) Physical and chemical interactions of ionizing radiations and their biological effects at the cellular, tissue and whole animal level. Interactions of radiation with matter in living cells. Description of events following ionizing irradiation; cell survival as a function of dose; survival models.

PHYS 539 Radiation Dosimetry (3 credits) The basic principles of radiation dosimetry. Discussion of various theories and protocols as applied to X-rays and charged particles. Exploration of the operation of various dosimeters and dosimetry systems in a laboratory environment.

PHYS 540 Radiological Imaging (3 credits) The basic mathematics of image reconstruction. Practical applications in tomographic imaging, computerized tomography, medical ultrasound imaging and magnetic resonance imaging. Includes laboratory components.

Physics 545 Anatomy, Physiology and Statistics for Medical Physicists (3 credits) Basic background in the disciplines of anatomy, physiology and medical statistics. The anatomy and physiology content is provided by a WebCT online course which uses a text, a CD-ROM, online class notes and exercises with automatic feedback and scoring. The medical statistics component is provided in nine hours of lectures.

PHYS 546 Clinical Experience in Medical Physics (2 credits) Introduction to common Medical Physics clinical practices in radiation therapy and imaging. Sessions include calibration of linear accelerators, dose measurements in clinical x-ray devices and MRI acceptance testing.

Elective courses

PHYS 541 Nuclear Medicine (3 credits) Introduction to the physics of nuclear medicine, medical imaging, digital filtering, image reconstruction and data analysis issues. Physics principles of the operation of nuclear medicine scanners, image reconstruction methods, internal dose estimations, functional imaging and discussion of recent developments in nuclear medicine techniques.

PHYS 542 Nuclear Magnetic Resonance Imaging (3 credits) Introduction to basic NMR physics, NMR imaging principles, data acquisition and image reconstruction strategies, flow imaging, fast imaging, chemical shift imaging, diffusion and perfusion imaging, image artifacts, advanced techniques and applications.

PHYS 543 Biomedical Optics (3 credits) Introduction to the interaction of light with tissue at the microscopic and macroscopic scale. Clinical applications in pathology. Photon dosimetry and laser therapies.

SCI-17-1-MED PHYS GRAD PROGRAMS

**BC Cancer Agency**

CARE & RESEARCH

An agency of the Provincial Health Services Authority

October 26, 2017

Dr. Colin Gay
Department Head, Physics and Astronomy
University of British Columbia

Dear Dr. Gay,

This will confirm that the BC Cancer Agency (BCCA) fully supports the University of British Columbia Medical Physics program application. This academic stream has been a joint effort of the BCCA and UBC over the past several decades and we believe it will continue to serve the population of British Columbia by training future medical physicists for professional, research, and academic careers. BCCA support includes a commitment to the Physics 546 course covering clinical experience requirements. Medical Physics staff will continue to offer this course on an ongoing basis and it is not anticipated that additional resources from UBC will be required to support this course within the new program.

Sincerely,

A handwritten signature in black ink that reads "Cheryl Duzenli".

Cheryl Duzenli, PhD FCCPM
Department Head, Medical Physics
Vancouver Centre

600 West 10th Avenue
Vancouver, BC, Canada V5Z 4E6
www.bccancer.bc.ca

Tel: 604.877.6000
Fax: 604.872.4596

Doctor of Philosophy in Medical Physics

Department of Physics and Astronomy

Faculty of Science

University of British Columbia

November, 2017

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5 Executive Summary

The Department of Physics & Astronomy at the University of British Columbia at Vancouver proposes to offer a degree program for Doctor of Philosophy in Medical Physics. It will be an evolution of the training in medical physics that has been offered as a stream within the Ph.D. in Physics degree program since the 1950s. It should be noted that UBC already offers a degree program in Medical Physics at its Okanagan campus.

Graduates of the Ph.D. in Medical Physics program will:

- understand the physics of medical imaging and radiation oncology;
- achieve independence in original medical physics research;
- work effectively in clinical and research environments that include oncologists, radiologists, nuclear medicine physicians, cardiologists, neuroscientists, radiation therapy professionals and biomedical engineers;
- be prepared for positions at medical physics research institutions as well as healthcare institutions;

The Ph.D. in Medical Physics requires 26 credits of coursework, seminars, and clinical experience, and a dissertation. This work is normally done over 4 years. The curriculum complies with the requirements of the Commission on Accreditation of Medical Physics Education Programs. Graduates may then choose to enter residency programs in medical physics (typically 2 additional years).

Most of the coursework credits are for lecture courses or seminars at UBC Vancouver or BC Cancer Agency. Some lectures are shared by video between University of Victoria, UBC-Vancouver, and UBC-Okanagan. Some credits are for clinical experience at BC Cancer Agency and Vancouver General Hospital. Thesis research projects are typically in collaboration with TRIUMF, BC Cancer Agency, or Djavad Mowafaghian Centre for Brain Health.

The Ph.D. in Medical Physics degree program is expected to attract essentially the same type and number of students that currently enter the Medical Physics stream of the Ph.D. in Physics degree program, which currently has 20 students. There are about 15 applicants per year, of which about 5 are accepted and about 3 enrolled.

In BC alone, population growth and replacement of retirements requires about 5 new radiotherapy physicists each year. Growing demand for advanced medical imaging (CT, MRI, PET) creates a similar requirement for imaging physicists. BC also exports medical physics graduates to provinces lacking medical physics training programs, the US, and the rest of the world.

6 Overview

6.1 Introduction

UBC's Department of Physics and Astronomy in the Faculty of Science has a long history of graduate training in Medical Physics. The Department's first pair of core Radiation Therapy Graduate courses, Physics 534 and 535, were offered in the 1950's. The first MSc with a focus on Medical Physics was awarded in 1956 and the first such PhD was awarded in 1991. Since the early 1990s the number of graduate degrees awarded in Medical Physics increased substantially. Medical Physics-focused graduate teaching expanded in the early 2000s with the introduction of seven new courses covering imaging and radiation therapy concepts.

The proposed program "PhD in Medical Physics" will continue to comply with the international regulatory body granting accreditation – the Commission on Accreditation of Medical Physics Education Programs (CAMPEP www.campep.org). Without this accreditation, graduates of this program would not be able to establish themselves in the medical-physics profession within the Health Care sector. A Medical Physics stream of the graduate Physics Program was initially accredited by CAMPEP in December 2003 and has been re-accredited in five-yearly intervals. The next re-accreditation is scheduled for 2018.

We currently have approximately 30 students working on graduate degrees in the medical physics stream; approximately 1/3 are MSc students and 2/3 are PhD students. Slightly over ½ are working in imaging research projects with the complement working on radiation therapy research projects.

The department is now seeking to formalize the Medical Physics Program in order to appropriately recognize the unique academic requirements as distinguished from a Doctor of Philosophy in Physics. The creation of this specific Medical Physics degree will enable us to better enforce the terms of Accreditation and will give our graduates full recognition for the special courses and clinical experience schedule they have undertaken.

6.2 Credential

The proposed credential awarded will be a Doctor of Philosophy in Medical Physics. This degree will be a Doctor's of Philosophy degree in accordance with the accreditation requirements of CAMPEP (Committee for the Accreditation of Medical Physics Education Programs). It will also contain a research component equal to that in a Doctor of Philosophy in Physics.

6.3 Location

The University of British Columbia's Point Grey campus and the BC Cancer Agency (Vancouver Cancer Centre) are the location of classroom/practical education. The administration of the program will occur from the Point Grey campus.

6.4 Faculty Offering Program

The Department of Physics and Astronomy housed within the Faculty of Science will offer the program. The program will be co-directed by one faculty member from the Department of Physics and one Associate or Adjunct Faculty Medical Physicist from the BC Cancer Agency.

6.5 Program Start Date

The program will be first offered starting September 2018. Students already enrolled in the existing Medical Physics stream may remain there and obtain a Ph.D. in Physics, or transfer to the Medical Physics degree program. The renewal application for CAMPEP accreditation (expires on December 31, 2018) will be based on the new program structure.

6.6 Program Completion Time

The anticipated completion time for the program is 4 years of full-time academic study.

6.7 Objectives and Program Learning Outcomes

The primary objectives of the proposed program are:

- To provide comprehensive, high quality, CAMPEP-accredited graduate degrees in medical physics leading to PhD qualifications.
- To foster creative and vibrant interdisciplinary research between UBC Physics, BC Cancer Agency, Regional Health Authorities, allied UBC departments and initiatives (Engineering, Chemistry, Math, Computer Science, Statistics, Biology, and the Brain Research Centre) and TRIUMF.
- To attract talented students and train the next generation of medical physics professionals for subsequent employment within health, education, government and industrial sectors.
- To collaborate with the UBC-O and University of Victoria accredited medical physics programs, and BCCA's accredited medical physics residency program to provide a united provincial vision for medical physics education and research with regional and international impact.

6.8 Contributions to UBC's Mandate and Strategic Plan

Graduates will be equipped to pursue careers in hospitals, specialized areas of medicine (e.g. cancer treatment and research and brain research), government, industry and other medical research environments. Their work is interdisciplinary in nature and in many cases, translates to innovative solutions to real world medical problems relating to diagnosis and treatment of many disease types from cancer to brain and cardiac research.

Many of our medical physics faculty hold associate or adjunct professor status in the Department of Physics and Astronomy but have primary appointments in Departments of the Faculty of Medicine (Radiology, Surgery, Oncology) or work at the BC Cancer Agency Treatment or Research Centres. The faculty provides unique and invaluable teaching contributions and provides students with insight into state-of-the-art clinical and research applications of medical physics.

The program supports the creation of an exceptional learning environment (UBC Place and Promise) through

- *Student Learning:* The multidisciplinary and multi-institutional teaching structure within the proposed program is a truly unique learning environment that capitalizes on local and provincial expertise in medical physics in order to deliver a comprehensive medical physics curriculum of exceptionally high quality recognized through international accreditation.
- *Research Excellence & Community Engagement:* The Graduate Program in Medical Physics at UBC-Vancouver will increase research capacity, strengthen our partnership with the provincial BC Cancer agencies, and provide training to meet the growing national and international demand for medical physicists. The program will create a strong link between UBC Science and the Medicine, including BC Cancer Agency, PHSA and Vancouver Coastal Health, with extension to the wider British Columbian health care community through engagement of associate and adjunct faculty with shared research interests.

6.9 Delivery Methods

The program consists of 26 credits of course work including laboratory, clinical experience and seminar content, and a dissertation.

- Intra-provincial course curriculum (joint with the UBC-Okanagan Campus and the University of Victoria), with delivery through:
 - In-house and video-linked course lectures
 - Laboratories within a clinical environment
- Graduate student research seminar series;
- Comprehensive research projects, typically in collaboration with the BC Cancer Agency, the Brain Research Centre, or TRIUMF.

6.10 Linked Learning Outcomes and Curriculum Design

Graduates of the PhD in Medical Physics Program will be prepared for both medical physics research and teaching, and clinical treatment, and

- achieve independence in the pursuit of original Medical Physics research
- develop original approaches and ideas in the tackling of research questions
- have acquired teaching experience in the departmental TA program

They will also achieve the learning outcomes of the MSc in Medical Physics program to a higher level:

- be highly competitive in the Canadian and international medical physics labour markets; the PhD-level will open the door to senior leadership positions within healthcare institutions
- obtain a comprehensive understanding of the fundamental underpinnings of medical physics, with concentration on imaging and radiation oncology physics, through the completion of a comprehensive course curriculum;
- gain experience in the application of medical physics theory to cutting edge research through the completion of a rigorous thesis project;
- work effectively in collaborative and cross-disciplinary clinical and research environments that include oncologists, radiologists, nuclear medicine physicians, cardiologists, neuroscientists, radiation therapy professionals and biomedical engineers;

The curriculum is designed to prepare students for potential sectors of employment including:

- Radiation medicine
- Medical Imaging
- Medical instrumentation research and development
- Ionizing Radiation Standards
- Radiation Safety Regulatory
- Teaching and Education

6.11 Program Strengths

The program has been delivering a comprehensive, accredited curriculum in diagnostic and functional imaging and radiation oncology physics since 2003.

The program will capitalize on research strengths within the Vancouver area medical physics community, e.g. radiation therapy, magnetic resonance imaging (MRI) and nuclear medicine imaging (PET and SPECT) for brain, cardiac and cancer imaging, and high energy nuclear physics.

Research conducted within the program can directly contribute to provincial health care initiatives through engagement of associate and adjunct faculty based in local health care institutions.

6.12 Related Programs at UBC and other BC Post-Secondary Institutions

Since 2016, UBC-Okanagan together with the BC Cancer Agency (Centre for Southern Interior) has offered a graduate program (MSc and PhD) in Medical Physics within the Irving K Barber School of Arts and Science Unit 5. Recently, this new program has gained provisional CAMPEP accreditation and admitted its first two students in 2016. The current application here at UBC-Vancouver is very similar to that at UBC-Okanagan. Due to the minor differences (outlined in Section 3.3.1) we argue that a full ministerial program review is not required.

The UBC-Vancouver program closest in content to the Medical Physics Program is the Biomedical Engineering M.A.Sc. program. Our Medical Physics courses are available to students in the Biomedical Engineering program; e.g. most of their students take our Physics 545 course on Anatomy, Physiology and Medical Statistics and many take PHYS 540 Image Reconstruction. However, there is currently little overlap between research areas in the two programs. The two programs can be considered as complementary to each other.

The University of Victoria in cooperation with BC Cancer Agency (Vancouver Island Centre) offers training in Medical Physics as streams in the M.Sc. and Ph.D. in Physics and Astronomy. UVic also offers a course-only Certificate in Medical Physics for students with a previous Ph.D. in physics or a related field.

Today, our program is one of twelve CAMPEP Accredited Medical Physics programs in Canada (Alberta, UBC-Vancouver, UBC-Okanagan, Calgary, Carleton, Dalhousie, Laval, Manitoba, McGill, Ryerson, Victoria and Western) and there are 50 CAMPEP accredited programs in North America, one in South Korea and one in Ireland. Medical Physics is still a growth area and there are a few active (but not yet accredited programs in Canada). The largest of the non-accredited Medical Physics programs are at Toronto and McMaster.

6.13 Institutional Contacts / Proponents

Stefan A. Reinsberg
Department of Physics and Astronomy
stefan@phas.ubc.ca
604-822-2925

7 Program Description and Specification

7.1 Need for the Program

Medical physicists are health care professionals with specialized training in the medical applications of physics. Their work often involves the use of x-rays and accelerated charged particles, radioactive substances, ultrasound, magnetic and electric fields, infra-red and ultraviolet light, heat and lasers in diagnosis and therapy. Most medical physicists work in hospital diagnostic imaging departments, cancer treatment facilities, or hospital-based research establishments. Others work in universities, government, and industry.

The need for graduates in Medical Physics can be derived from current data on health care needs: 50% of Canadians can expect to require treatment for cancer in their lifetime, roughly half of which will receive radiation therapy. The annual 3% increase in cancer cases requiring radiotherapy in the BC Cancer agency is in line with the increase in the Canadian population overall. The recommended staffing levels in radiotherapy physics alone is 1 qualified medical physicist per approximately 260 patients. Since the BC Cancer Agency currently treats more than 10,000 cases per year, one additional qualified medical physicist will be required due to population increase alone per year. In addition, with an aging workforce of baby boomers and expected retirement boom in medical physics starting in 2019, we will require a replacement of about 4 FTE per year across the province in BC alone. From the needs within the province, there is a need to have 5 graduates specializing in radiotherapy physics per year, starting in 2019. While the need for radiotherapy medical physicists scales similarly for all provinces across Canada, some provinces are severely underserved by graduate programs: This means UBC's very strong medical physics program will also export to the rest of Canada (and from experience of our past alumni to the US and rest of world). Access to radiotherapy in developing countries is becoming a problem as other diseases are being more effectively treated and people are living long enough to suffer from cancer. An urgent need is emerging which will require export of qualified medical physicists and the education of foreign students who will return to their countries after medical physics graduate education at UBC.

It is important to keep in mind that the training cycle including residency is 4 years for an MSc and 6 years for a PhD. Residency is a mandated requirement for medical physicists due to their increased involvement in patient care. Access to residency programs is only possible for graduates from CAMPEP accredited programs such as the one at UBC.

The above analysis is focussed on radiotherapy since, historically, most medical physicists were employed in that field. As a result, long-term statistics are available for this field. However, imaging, the other large medical physics sub-specialty, is quickly demanding more graduates: Magnetic Resonance Imaging (MRI), Positron-Emission Tomography (PET), Ultra-sound (US) and diagnostic imaging (X-Ray & CT) are being increasingly used in the diagnosis, staging and treatment planning for cancer therapy as well as brain care, heart and lung, arthritis and many other diseases. PET imaging is currently expanding outside of Vancouver, to Victoria and Kelowna in 2017-2018, creating a need for more imaging physicists in the clinical environment.

Health Canada recently published [Safety code 35](#) which also speaks to the need for qualified imaging physicists. In the community, there is the expectation that analogously to safety code 35 (focussed on X-ray equipment), similar safety codes will be developed for MRI, Nuclear Medicine Imaging, and Ultrasound. This will further put demand pressure on the medical physicist job market.

7.1.1 Choice between MSc and PhD program

Both the MSc and PhD medical physicist are eligible to sit the Canadian College of Physicist in Medicine exam which awards the credential for clinical practice. However, when working in health care, they are expected to perform different tasks. Further, different employment environments have different needs.

The role of PhD medical physicists often includes a stronger emphasis on research and education. As the faculty in our UBC Medical Physics program shows, many of our courses are taught by PhD physicists who practice clinically and are employed in health care. Research in medical physics is also predominantly facilitated by PhD medical physicists who work in the field and understand the problems that need to be solved. Again, supervisors in our program are largely PhD medical physicists who are working at the BCCA or in medical imaging facilities.

Students who plan for employment in academically active health-care environment with a strong emphasis on teaching and research will be pursuing a PhD in Medical Physics.

However, in smaller clinical settings, we still need well trained medical physicists but they don't have as much opportunity to teach and drive research. In such places employers will find it hard to retain PhD medical physicists. The Canadian public is best served by a mixture of well-trained MScs and PhD's so that employers have a good selection from which to meet their needs.

7.2 Program Objectives and Themes

The primary objectives of the proposed program are:

- To provide comprehensive, high quality, CAMPEP-accredited graduate degrees in medical physics leading to PhD qualifications.
- To foster creative and vibrant interdisciplinary research between UBC Physics, BC Cancer Agency, Regional Health Authorities, allied UBC departments and initiatives (Engineering, Chemistry, Math, Computer Science, Statistics, Biology, and the Brain Research Centre) and TRIUMF.
- To attract talented students and train the next generation of medical physics professionals for subsequent employment within health, education, government and industrial sectors.

- To collaborate with the UBC-O and University of Victoria accredited medical physics programs, and BCCA's accredited medical physics residency program to provide a united provincial vision for medical physics education and research with regional and international impact.

7.3 Relationship to Established Programs

At UBC-Vancouver Department of Physics and Astronomy / Medical Physics Graduate Stream: The department has been offering a successful stream in the physics department since 2003. This program will formally replace this stream.

At UBC-O: Since 2016, UBC Okanagan together with the BC Cancer Agency (Centre for Southern Interior) is offering a graduate program (MSc and PhD) in Medical Physics within the Irving K Barber School of Arts and Science Unit 5. Recently, this new program has gained provisional CAMPEP accreditation and admitted its first two students in 2016. The current program application is very similar to the one recently approved at UBC Okanagan owing to the strict accreditation requirements of CAMPEP. Similarities and Minor Differences are outlined in Section 3.3.1.

At University of Victoria: The University of Victoria in cooperation with BC Cancer Agency (Vancouver Island Centre) offers training in Medical Physics as streams in the M.Sc. and Ph.D. in Physics and Astronomy. UVic also offers a course-only Certificate in Medical Physics for students with a previous Ph.D. in physics or a related field.

At The University of British Columbia: The UBC-Vancouver program closest in content to the Medical Physics Program is the Biomedical Engineering M.A.Sc. program. Our Medical Physics courses are available to students in the Biomedical Engineering program; e.g. most of their students take our Physics 545 course on Anatomy, Physiology and Medical Statistics and many take PHYS 540 Image Reconstruction. However, there is currently little overlap between research areas in the two programs. The two programs can be considered as complementary to each other.

Elsewhere: Today, our program is one of twelve CAMPEP Accredited Medical Physics Programs in Canada (Alberta, UBC-V, UBC-O, Calgary, Carleton, Dalhousie, Laval, Manitoba, McGill, Ryerson, Victoria and Western) and there are 50 CAMPEP accredited programs in North America, one in South Korea and one in Ireland. Medical Physics is still a growth area and there are a few active (but not yet accredited programs in Canada). The largest of the non-accredited Medical Physics programs are at Toronto and McMaster.

7.3.1 Similarities and Minor Difference to UBC-Okanagan Program Application

Both program applications share the same objectives and are aligned in the same way with the UBC Mandate and Strategic Plan.

Similarly, the context, demand and expected interest for the program is the same. A major operational difference is that a UBC Medical Physics Stream has been offered since 2003 in the

Department of Physics and Astronomy. The years of experience in running this stream provide considerable confidence in a sustainable future of the program.

The courses as part of the PhD degree at UBC-Okanagan and UBC-Vancouver map nearly one-to-one. The main difference is the UBC-Vancouver requirement for PHYS 500 (a graduate-level course in Quantum Mechanics). This course requirements exemplifies the strong Physics foundation that is expected of the graduates of the Medical Physics program in UBC-Vancouver.

| UBC-V Course Number | UBC-O Course Number | comment |
|--------------------------------|--------------------------------|--|
| PHYS 500 (3) | | Graduate Level QM not required at UBC-O |
| PHYS 534 (3) | PHYS 534 (3) | |
| PHYS 535 (3) | PHYS 535 (3) | Initially UBC-O offered PHYS 535 as an elective; recent CAMPEP accreditation rules make this a required core course. |
| PHYS 536 (3) | PHYS 544 (3) | |
| PHYS 539 (3) | PHYS 539 (3) | |
| PHYS 540 (3) | PHYS 540 (3) | |
| PHYS 545 (3) | PHYS 547 (1) | The UBC-V course includes a module on Statistics in Medical Physics Practice which explains the higher credit count at UBC-V. |
| PHYS 546 (2) | PHYS 546 (2) | |
| PHYS 541 (3) (elective) | | These elective courses have been offered for a long time at UBC-V and underline the strength in the diverse offerings of the UBC-V program |
| PHYS 542 (3) (elective) | | |
| PHYS 543 (3) (elective) | | |

7.4 Demand for the Program

There are about 600 medical physicists working in Canada: 75% work in hospitals and hospital-based research establishments, 7% work for government, 8% for industry, and an additional 10% are university faculty who are not hospital-based. An MSc is considered a minimum qualification for obtaining a job in this field.

In British Columbia, there are growing opportunities for medical physicists. Current employers of radiation therapy physicists are the six BC Cancer Centres (Victoria, Vancouver, Surrey, Kelowna, Abbotsford and Prince George), the BC Cancer Research Centre, the BC Health Authorities and the University of British Columbia. There are nearly 30 Cancer Centres in Canada. Many of the larger hospitals in Canada hire diagnostic imaging physicists.

The analysis under *2.1 Need for the Program* leads to the conclusion that UBC's medical Physics programme needs to enrol at least 5 graduate students per year to meet the demand in radiotherapy alone in this province. This figure should be doubled to meet demand of imaging physicists in BC and medical physics employers outside the province – this will require that both programs at UBCO and University of Victoria contribute significantly to the number of graduates in BC.

7.5 Student Interest and Enrolment Expectations

The enrollment of medical physics graduate students in the Department of Physics and Astronomy has been stable over the past 15 years. The number of Medical Physics jobs in Canada is growing by 5-10% per year. Enrollment in our undergraduate 'Introduction to Medical Physics' course, Physics 404 has currently passed 45 registered students – many of these may go on to do graduate work in Medical Physics at UBC and other universities. The undergraduate Biophysics and Engineering Physics programs at UBC provide an excellent source for medical physics graduate students, but we also acquire students from other Canadian as well as international universities.

Application and Enrolment data from past years are given in the following table:

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------|------|------|------|------|------|------|
| Applicants PhD | 11 | 14 | 13 | 13 | 17 | 15 |
| Applicants MSc | 29 | 24 | 29 | 33 | 41 | 45 |
| Accepted PhD | 2 | 4 | 5 | 4 | 5 | 2 |
| Accepted MSc | 8 | 3 | 9 | 11 | 6 | 8 |
| Enrolled PhD | 0 | 3 | 3 | 3 | 5 | 3 |
| Enrolled MSc | 4 | 3 | 3 | 5 | 1 | 2 |

Typically, there are approximately 30 graduate students in UBC Physics and Astronomy working on thesis projects involving radiation therapy, cancer imaging, nuclear medicine and magnetic resonance imaging. With the recent acquisition of new Adjunct/Associate Faculty and the

establishment of a formal degree program, we anticipate increasing our graduate student intake. Our main limit on numbers of medical physics graduate students is the ability of our Faculty to take on and supervise students.

7.6 Admission Requirements

Applicants to the program are admitted as part of the general admission of graduate students in the Department of Physics and Astronomy. Admission requirements to this program (PhD in Medical Physics) are the same as to PhD in Physics: The prerequisite for the program is either: an MSc in physics (single or combined), astronomy, or mathematics; or, an MASc in engineering physics or electrical engineering. Applicants with a degree in an engineering discipline or another of the physical sciences are expected to have undertaken coursework that is the equivalent of a minor in physics (i.e., one that includes at least three upper-level undergraduate physics courses that would be required for a physics major). An overall average of 80% or better in third- and fourth-year courses is expected for entry into the program.

Alternatively, well-qualified students admitted to the MSc program may transfer to the PhD program after a year's residence at UBC if they have at least 12 credits in 500-level coursework with an overall average of at least 85%, clear evidence of research ability, and approval of the dissertation supervisor.

7.7 Program Requirements

7.7.1 Course Requirements

The program is organized into 8 core courses (23 credits) and 3 electives (3 credits) resulting in a minimum number of course credits of 26:

| | |
|------------------------------|---|
| PHYS 500 (3) | Quantum Mechanics I |
| PHYS 534 (3) | Radiotherapy Physics I |
| PHYS 535 (3) | Radiotherapy Physics II |
| PHYS 536 (3) | Advanced Radiation Biophysics |
| PHYS 539 (3) | Radiation Dosimetry |
| PHYS 540 (3) | Radiological Imaging |
| PHYS 545 (3) | Anatomy, Physiology and Statistics for Medical Physicists |
| PHYS 546 (2) | Clinical Experience in Medical Physics (New Course) |
| PHYS 541 (3-elective) | Nuclear Medicine |
| PHYS 542 (3-elective) | Nuclear Magnetic Resonance Imaging |
| PHYS 543 (3-elective) | Biomedical Optics |

Students are usually able to finish their course work in term 1 and 2 of their first year but might have to take an elective in a subsequent term. The PHYS 546 Clinical Experience course stretches over 2 years.

7.7.2 Advancement to Candidacy: Comprehensive Exam Requirement and Thesis Proposal

As per requirement of the Faculty of Graduate and Postdoctoral Studies, students are required to pass the comprehensive exam and present a thesis proposal satisfactory to the supervisory committee in order to advance to candidacy within 36 months of commencement of studies.

7.7.3 Dissertation Requirement

The program requires the completion of a dissertation. All PhD students must give a public presentation of their research work. This can be done at a research seminar in the department, or as an oral presentation at a conference, workshop, or meeting.

7.8 Program Overview

Requirements for the completion of an PhD degree in Medical Physics include:

- 26 course credits as outlined above. The requirement for courses from the list above will be waived if the students have attended those courses during their previous graduate studies (e.g. as part of their MSc in Medical Physics). However, a minimum of 12 credits in graduate level courses in any Science, Applied Science, or Medicine department are required for the Ph.D., with details of the course load determined in consultation with the dissertation advisor and supervisory committee.
- Direct transfer students require a further 12 credits of graduate-level coursework in any Science, Applied Science, or Medicine department.
- All doctoral students are required to successfully complete a comprehensive examination.
- The major requirement for the Ph.D. is completion of a research dissertation meeting the Faculty of Graduate and Postdoctoral Studies requirements.
- Students need to meet the requirements of 'Satisfactory Progress' as defined by the Faculty of Graduate and Postdoctoral Studies.

7.9 Resources

Human Resources

We are currently delivering the Medical Physics Stream inside the Graduate Program of the Department of Physics & Astronomy. The proposal transitions this stream into a stand-alone program, but still inside the Department of Physics & Astronomy. Courses and student supervision will continue to be delivered by the faculty and hence there are no changes required. Hence, there is a net zero budget impact from the creation of this program.

Space

As above, there is no change in space requirements from the creation of this program. The

program will be delivered in the classrooms as previously. Many of the courses are held at the BC Cancer Agency and Vancouver General Hospital.

Library

The result of the Library consult (attached) is "The Proposal has an impact on the Library and can be supported."

8 APPENDIX A: Existing and New Courses Directly Identified with the Program

Core courses

The following lists the courses suitable for students in the medical physics program. Core subjects are completed by all students (unless they have already taken an equivalent graduate level course elsewhere). Elective subjects are chosen for their relevance to the student's research field and additional subjects are available, if appropriate, for an individual student. Courses which have been designed primarily for the Medical Physics program (core and elective) are covered in more detail in Appendix I.

PHYS 500 Quantum Mechanics I (3 credits) Non-relativistic quantum mechanics with applications to atomic, nuclear and particle physics. Elementary field-theory techniques for many-body systems. The Dirac equation. Introduction to the quantum field theory of electrons and photons.

PHYS 534 Radiotherapy Physics I (3 credits) Basic principles of the production of X-rays and charged particles. Devices and their operation for producing radiation for use in therapeutic radiology. The interactions of photons and electrons in matter.

PHYS 535 Radiotherapy Physics II (3 credits) Physics and applied dosimetry of current external and internal therapeutic irradiation techniques.

PHYS 536 Advanced Radiation Biophysics (3 credits) Physical and chemical interactions of ionizing radiations and their biological effects at the cellular, tissue and whole animal level. Interactions of radiation with matter in living cells. Description of events following ionizing irradiation; cell survival as a function of dose; survival models.

PHYS 539 Radiation Dosimetry (3 credits) The basic principles of radiation dosimetry. Discussion of various theories and protocols as applied to X-rays and charged particles. Exploration of the operation of various dosimeters and dosimetry systems in a laboratory environment.

PHYS 540 Radiological Imaging (3 credits) The basic mathematics of image reconstruction. Practical applications in tomographic imaging, computerized tomography, medical ultrasound imaging and magnetic resonance imaging. Includes laboratory components.

Physics 545 Anatomy, Physiology and Statistics for Medical Physicists (3 credits) Basic background in the disciplines of anatomy, physiology and medical statistics. The anatomy and physiology content is provided by a WebCT online course which uses a text, a CD-ROM, online class notes and exercises with automatic feedback and scoring. The medical statistics component is provided in nine hours of lectures.

PHYS 546 Clinical Experience in Medical Physics (2 credits) Introduction to common Medical Physics clinical practices in radiation therapy and imaging. Sessions include calibration of linear accelerators, dose measurements in clinical x-ray devices and MRI acceptance testing.

Elective courses

PHYS 541 Nuclear Medicine (3 credits) Introduction to the physics of nuclear medicine, medical imaging, digital filtering, image reconstruction and data analysis issues. Physics principles of the operation of nuclear medicine scanners, image reconstruction methods, internal dose estimations, functional imaging and discussion of recent developments in nuclear medicine techniques.

PHYS 542 Nuclear Magnetic Resonance Imaging (3 credits) Introduction to basic NMR physics, NMR imaging principles, data acquisition and image reconstruction strategies, flow imaging, fast imaging, chemical shift imaging, diffusion and perfusion imaging, image artifacts, advanced techniques and applications.

PHYS 543 Biomedical Optics (3 credits) Introduction to the interaction of light with tissue at the microscopic and macroscopic scale. Clinical applications in pathology. Photon dosimetry and laser therapies.

SCI-17-1-MED PHYS GRAD PROGRAMS

**BC Cancer Agency**

CARE & RESEARCH

An agency of the Provincial Health Services Authority

October 26, 2017

Dr. Colin Gay
Department Head, Physics and Astronomy
University of British Columbia

Dear Dr. Gay,

This will confirm that the BC Cancer Agency (BCCA) fully supports the University of British Columbia Medical Physics program application. This academic stream has been a joint effort of the BCCA and UBC over the past several decades and we believe it will continue to serve the population of British Columbia by training future medical physicists for professional, research, and academic careers. BCCA support includes a commitment to the Physics 546 course covering clinical experience requirements. Medical Physics staff will continue to offer this course on an ongoing basis and it is not anticipated that additional resources from UBC will be required to support this course within the new program.

Sincerely,

Cheryl Duzenli, PhD FCCPM
Department Head, Medical Physics
Vancouver Centre

600 West 10th Avenue
Vancouver, BC, Canada V5Z 4E6
www.bccancer.bc.ca

Tel: 604.877.6000
Fax: 604.872.4596

PHYSICS

Category: (NP)

| | |
|---|---|
| Faculty: Science Department: Physics & Astronomy Faculty Approval Date: November 1, 2017 | Date: November 1, 2017 Contact Person: Norm Hutchinson Phone: 604-822-8818 Email: norm@cs.ubc.ca |
| Effective Date for Change: S Effective Academic Year: 2018 Proposed Calendar Entry: Medical Physics Degrees Offered: Ph.D., M.Sc. Members Professors A. MacKay V. Sossi A. Celler Q-S. Xiang Associate Professors P. Kozlowski S. Reinsberg Assistant Professors N. Ford S. Kolind C. Laule Program Overview Master of Science Admission Requirements Students must meet the Faculty of Graduate and Postdoctoral Studies master's degree admission requirements. The prerequisite for admission to the program is either: a B.Sc. in physics (single or combined major), astronomy, or mathematics; or a B.A.Sc. in engineering physics or electrical | URL Present Calendar Entry: NA Action: Create M.Sc. and Ph.D. programs in Medical Physics, distinct from M.Sc. and Ph.D. programs in Physics. Rationale: While UBC has offered M.Sc. and Ph.D. degrees in Physics with a focus on Medical Physics since 1951, the amount of coursework now required by the Commission on Accreditation of Medical Physics Education Programs (CAMPEP) exceeds that of a standard UBC graduate degree in Physics. Creating M.Sc. and Ph.D. programs in Medical Physics, distinct from Physics, allows the extra coursework to be officially included in the Medical Physics programs. This program closely parallels the existing Medical Physics degree programs at the Okanagan campus of UBC. Supporting Documents: SCI-17-1-MED PHYS |

engineering. Applicants with a degree in an engineering discipline or another science discipline are expected to have completed coursework that is the equivalent of a minor in physics. An overall average of 80% or better in third- and fourth-year courses is required for admission to the program.

English language requirements for admission to the program are higher than the minimum specified by the Faculty of Graduate and Postdoctoral Studies. Please see [English Language Proficiency Standards and GRE Requirements](#) for more details.

Program Requirements

Required courses (23 credits)

PHYS 500 (3)- Quantum Mechanics I
 PHYS 534 (3) Radiotherapy Physics I
 PHYS 535 (3) Radiotherapy Physics II
 PHYS 536 (3) Advanced Radiation Biophysics
 PHYS 539 (3) Radiation Dosimetry
 PHYS 540 (3) Radiological Imaging
 PHYS 545 (3) Anatomy, Physiology and Statistics for Medical Physicists
 PHYS 546 (2) Clinical Experience in Medical Physics

One additional elective (3 credits each)

PHYS 541 (3) Nuclear Medicine
 PHYS 542 (3) Nuclear Magnetic Resonance Imaging
 PHYS 543 (3) Biomedical Optics

Research thesis (12 credits)

PHYS 549 Thesis

Doctor of Philosophy

Admission Requirements

Students are normally admitted to the Ph.D. program after obtaining an M.Sc. or M.A.Sc. and

must meet the Faculty of Graduate and Postdoctoral Studies PhD degree admission requirements. Alternatively, well-qualified students admitted to the M.Sc. program in Medical Physics may transfer to the Ph.D. program after one year of study and the completion of a minimum of 12 credits of course work at the 500-level with a minimum overall average of 85%, clear evidence of research ability, and departmental approval.

Program Requirements

A minimum of 12 credits in graduate level courses in any Science, Applied Science, or Medicine department are required for the Ph.D., with details of the course load determined in consultation with the dissertation advisor and supervisory committee. Students must also satisfy all the course requirements of the M.Sc. program in Medical Physics. Students who do not already have credit for the required master's degree courses or the equivalent graduate level courses from another university (approved by Graduate Chair) must take these courses in the Ph.D. program. Direct transfer students require a further 12 credits of graduate-level coursework in any Science, Applied Science, or Medicine department for the Ph.D. All doctoral students are required to successfully complete a comprehensive examination. The major requirement for the Ph.D. is completion of a research dissertation meeting the Faculty of Graduate and Postdoctoral Studies requirements.

Contact Information

Department of Physics and Astronomy
6224 Agricultural Road
Vancouver, BC, Canada V6T 1Z1
Tel: 604.822.4245
Fax: 604.822.5324

| | |
|--|--|
| Email: gradsec@physics.ubc.ca Web: www.physics.ubc.ca | |
|--|--|



UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

| | |
|---|---|
| Faculty: Science Department: Physics and Astronomy Faculty Approval Date: November 1, 2017 | Date: November 1, 2017 Contact Person: Norm Hutchinson Phone: 604-822-8818 Email: norm@cs.ubc.ca |
| Effective Academic Year: S Effective Academic Year: 2018 Proposed Calendar Entry: PHYS 546 (2) Clinical Experience in Medical Physics Clinical treatment planning techniques, quality assurance of treatment equipment and clinical decision making for radiation therapy. Quality assurance and decision making for medical imaging. Pass/fail. | URL http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=PHYS Present Calendar Entry: NA Action: Create new course Rationale: Commission on Accreditation of Medical Physics Education Programs (CAMPEP) accreditation of the Medical Physics degree program requires that students receive clinical experience. This course will provide an introduction to Medical Physics clinical practice in both radiation therapy and diagnostic imaging. The main goal of this course is to provide students with a clinical perspective on the physicists' work in a clinical health care environment. The course reinforces the didactic training received in the other core courses in the CAMPEP-accredited Medical Physics program. While CAMPEP specifies the content for most of the other required courses, the clinical experience requirement is simply that students receive exposure to a variety of clinical situations, so pass/fail grading is appropriate. Note that this clinical experience delivery is already a part of the existing medical physics |



streams within the M.Sc. and Ph.D. degree programs, it is simply being given a formal UBC course number.

☐ **Not available for Cr/D/F grading.**

(Check the box if the course is NOT eligible for Cr/D/F grading.
Note: Not applicable to graduate-level courses.)

Rationale for not being available for Cr/D/F):

☒ **Pass/Fail or** ☐ **Honours/Pass/Fail grading**

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)

Supporting Documents: SCI-17-1-PHYS 546



28 February 2018

To: Vancouver Senate

From: Senate Curriculum and Admissions Committees

Re: Master Urban Forestry Leadership (approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Graduate and Postdoctoral Studies (Forestry) and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Master of Urban Forestry Leadership (M.U.F.L.) degree program and its associated new course code and new courses be approved.”*

Respectfully submitted,

Dr. Peter Marshall, Chair, Senate Curriculum Committee
Dr. Carol Jaeger, Chair, Senate Admissions Committee

**FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES****Forestry***New degree program, new course code and new courses*

Master of Urban Forestry Leadership; UFOR 500 (3) Developing Green and Resilient Cities – The Urban Forestry Approach; UFOR 511 (1.5) Geomatics Principles and Applications; UFOR 512 (3) Urban Forest Governance; UFOR 521 (3) Advances in Arboriculture and Urban Ecology; UFOR 522 (3) Urban Forest Resources and Benefits Assessment; UFOR 523 (1.5) Strategic Urban Forest Planning and Management; UFOR 531 (6) MUFL Capstone Course; FCOR Forestry Core (Professional Masters); FCOR 500 (1.5) Leadership and Sustainability; FCOR 501 (1.5) Project Management; FCOR 502 (1.5) Entrepreneurship; FCOR 503 (1.5) Policy Analysis



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

The University of British Columbia
Faculty of Forestry
Dean's Office
2005 - 2424 Main Mall
Vancouver, BC, V6T 1Z4
Phone 604 822 2727
Fax 604 822 8645
www.forestry.ubc.ca

Master of Urban Forestry Leadership (MUFL)

New Program Proposal

**Faculty of Forestry
University of British Columbia**

Wednesday, February 14, 2018

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| UFOR 521 (3) – Advances in Arboriculture and Urban Ecology | Error! Bookmark not defined. |
| UFOR 522 (3) – Urban Forest Resources and Benefits Assessment..... | Error! Bookmark not defined. |
| UFOR 523 (1.5) – Strategic Urban Forest Planning and Management..... | Error! Bookmark not defined. |
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1. Executive Summary - Master of Urban Forestry Leadership

The UBC Faculty of Forestry is proposing a new course-based Master's degree program – Master of Urban Forestry Leadership (MUFL). Highly-qualified urban forestry professionals are becoming increasingly necessary in cities around the world due to the rapid pace and scale of urbanization, the need to adapt to multiple impacts of climate change in cities, and increasing demand from the public for the recreational, psychological, and health benefits that trees and greenspaces provide. The proposed **30-credit, 13-month** program, is based on a comprehensive, interdisciplinary perspective of urban forestry with strong emphasis on governance and strategic management of urban forests. Students will learn how trees and vegetation grow and are managed in urban settings, but the emphasis of the program will be on skills and knowledge related to leadership and governance; project management and business skills; the public policy and planning context of urban forestry; green infrastructure planning; communication and marketing; public involvement; and urban forest resource and benefit assessment. The program will be built around 3 critical management skills that are woven throughout the program: creativity, decision-making, and leadership. The program will have an international focus, with students, teachers and case studies deriving from different parts of the globe. It is targeted for professionals with urban forestry related work experience in the public, private or not-for-profit sector, but also recent graduates from the UBC Bachelor of Urban Forestry program or similar programs.

The MUFL has a mixed delivery model. The program starts with a 3-credit online component. This is followed by a 21 credit on-campus component which includes core courses on leadership, project management, entrepreneurship and policy analysis (taught by UBC Sauder School of Business and UBC School of Public Policy and Global Affairs), urban forestry courses, capstone preparation course and required laboratories (taught by the UBC Faculty of Forestry). The final 6-credit capstone course can be done off-campus, based on individual student interests and/or their employer's needs. By the end of the program, students will be able to:

- Lead urban forestry programs and projects, and coordinate interdisciplinary teams.
- Understand the political, governance, legal, administrative and business contexts of urban forestry, and connect urban forestry issues to wider government and other agendas.
- Understand the specific challenges and opportunities associated with growing trees and other vegetation in urban areas.
- Compile, use and present information on key aspects of urban forestry, such as urban forest resources, ecosystem services, arboriculture and urban woodland management, and interactions between people and trees.
- Engage with communities and other partners in developing and implementing urban forestry programs and projects.
- Work with urban forestry in local, national and international contexts.

This program will prepare graduating students for a range of careers in public sector (federal, provincial and local jurisdictions), private sector (consulting, urban tree care companies, and utility corporations), NGOs, research and educational institutes and international organizations.

2. Master of Urban Forestry Leadership (MUFL)

2.1 Overview

The University of British Columbia is proposing a comprehensive research-intensive university, consistently ranked among the 40 best universities in the world. It creates an exceptional learning environment that fosters global citizenship, advances a civil and sustainable society, and supports outstanding research to serve the people of British Columbia, Canada and the world.

The UBC Faculty of Forestry is proposing a new course-based Master's degree program – Master of Urban Forestry Leadership (MUFL). Highly-qualified urban forestry professionals are becoming increasingly necessary in cities around the world due to the rapid pace and scale of urbanization, the need to adapt to multiple impacts of climate change in cities, and increasing demand from the public for the recreational, psychological, and health benefits that trees and greenspaces provide. The proposed 30-credit, 13-month program, is based on a comprehensive, interdisciplinary perspective of urban forestry with strong emphasis on governance and strategic management of urban forests. Students will learn how trees and vegetation grow and are managed in urban settings, but the emphasis of the program will be on skills and knowledge related to leadership and governance; project management and business skills; the public policy and planning context of urban forestry; green infrastructure planning; communication and marketing; public involvement; and urban forest resource and benefit assessment. The program will be built around 3 critical management skills that are woven throughout the program: creativity, decision-making, and leadership. The program will have an international focus, with students, teachers and case studies deriving from different parts of the globe.

2.2 Credential

The proposed credential awarded will be the **Master of Urban Forestry Leadership (MUFL)**.

2.3 Location

The Vancouver Campus at the University of British Columbia is the location for classroom education and administration.

2.4 Faculty Offering Program

The program will be administered by the UBC Faculty of Graduate studies similarly to all other professional masters programs at the UBC Faculty of Forestry. The majority of the courses will be offered within the UBC Faculty of Forestry. Three of the program's core courses (1.5 credits each) are taught by the Sauder School of Business and one by the UBC School of Public Policy and Global Affairs.

2.5 Program Start Date

The program will be first offered in Summer Term 2 of the 2019 academic year (July 2019 intake). Students will begin the online course (Developing Green and Resilient Cities – The

Urban Forestry Approach) in the latter half of the Summer Term, which they are expected to successfully complete before the start of the winter term in September.

2.6 Program Completion Time

Graduation requirements will be completed over a 13-month period (4 terms) from the beginning August through to the end of the following August.

2.7 Objectives and Program Learning Outcomes

By the end of the program, students will be able to:

- Lead urban forestry programs and projects, and coordinate interdisciplinary teams.
- Understand the political, governance, legal, administrative and business contexts of urban forestry, and connect urban forestry issues to wider government and other agendas.
- Understand the specific challenges and opportunities associated with growing trees and other vegetation in urban areas.
- Compile, use and present information on key aspects of urban forestry, such as urban forest resources, ecosystem services, arboriculture and urban woodland management, and interactions between people and trees.
- Engage with communities and other partners in developing and implementing urban forestry programs and projects.
- Work with urban forestry in both local, national and international contexts.

This program will prepare graduating students for a range of careers in public sector (federal, provincial and local jurisdictions), private sector (consulting, urban tree care companies, and utility corporations), NGOs, research and educational institutes and international organizations.

2.8 Contribution to UBC's Mandate and Strategic Plan

In keeping with UBC's vision, our target graduates will be exceptional global citizens, who promote the values of a civil and sustainable society. Graduates will understand the global context for urban forestry decision making and apply this to the formulation of urban forest policies and plans. They will understand systems thinking across the urban/rural interface, innovate climate change adaptation and mitigation measures, balance various social, ecological and economic demands and work comfortably with the public and stakeholders. The students will recognize UBC as a place of global learning and innovation and will enrich the scholarly life of the Faculty, both at the undergraduate and graduate level. This program will attract outstanding students, both domestic and international. It draws on and leverages existing capacity within our Faculty and will have a fee structure that enables full cost recovery over the short - medium term. Increasing enrollment will improve the cost efficiency of the Faculty of Forestry. We will seek to have the program recognized as a flagship program within UBC's University Sustainability Initiative.

2.9 Delivery Methods

The program consists of required coursework linked with core urban forestry themes and transferable skills. Based on results from our market research and general developments in higher education, the MUFL has a mixed delivery model. The program starts with a 3-credit

online component offered in summer term 2. The first part of this course is on edX online course platform (edX is a massive open online course, MOOC, provider which hosts online university-level courses in a wide range of disciplines to a worldwide student body). This is followed by a 21 credit on-campus component of core courses (transferable skills), urban forestry courses, capstone preparation course and required laboratories. The final 6-credit capstone course can be done off-campus, based on individual student's interests and needs. Through the program students will be required to have a series of mentor meetings to discuss their progress and the various components of their final capstone project.

2.10 Linking Learning Outcomes and Curriculum Design

The proposed curriculum will address the learning outcomes described above through existing, new and adapted courses with an emphasis on core themes and developing transferable skills. Program components that will specifically address the learning outcomes described in section 2.7 (page 5) are as follows:

- The online course, Developing Green and Resilient Cities – The Urban Forestry Approach, offered in the summer term (August) prior to the on-campus courses, focuses on the importance of urban green space and urban trees for cities. The course prepares students with the context and skills to succeed in the following two terms of coursework.
- UBC Forestry has created three management / leadership courses in collaboration with the Sauder School of Business (1.5 credits each) and a policy analysis course (1.5 credits) with the UBC School of Public Policy and Global Affairs. These courses provide students with personal and professional skills to lead urban forestry programs and projects, coordinate interdisciplinary teams and understand various political, governance, legal, administrative and business contexts of urban forestry
- Urban Forestry courses in the Fall and Winter terms will cover key aspects of urban forestry, such as urban forest resources, ecosystem services, arboriculture and urban woodland management, and interactions between people and trees, while also building quantitative skills in geospatial information systems (GIS) and remote sensing. These courses will provide a mix of theory and hands-on practice to provide students with a well-rounded mix of working knowledge and skills.
- The two-term Capstone preparation course prepares students to develop, write and deliver an effective project proposal. They can freely select the topic based on their employer's needs or based on their own interest. They will be assigned a Faculty mentor who will guide them to develop a proposal that will be implemented during the capstone period.
- The final 6-credit Capstone Course in the summer term will tie together the concepts and skills learned in the previous two terms and give students the opportunity to apply them in a project-based learning experience. Students may work individually or in groups and projects may take place on or off campus. MUFL Faculty will assist students to connect with potential partner organizations of campus or help them to find a project on campus. Students will develop project management and leadership skills during this implementation phase of the project.

2.11 Program Strengths

UBC Forestry is uniquely positioned to offer this degree. The Faculty is one of the largest and most recognized schools of forestry and conservation sciences in the world and has excellent facilities with more than 1100 undergraduate and 320 graduate students, with a large international student body. It launched Canada's first Bachelor of Urban Forestry program in 2015 and employs several world-leading academics in urban forestry and related fields. Through its unique approach to urban forestry, which takes a broader, more ecosystem-based view than most urban forestry programs elsewhere, UBC brings in world-leading expertise from both within and outside the Faculty.

The Faculty provides state-of-the-art training in several diverse urban forestry sub-disciplines, covering research areas from social and natural sciences to wood science and design/planning. We host world-leading experts on urban forestry, with particular strongholds in urban forest governance, green infrastructure planning, ecosystem service provision and public health impact of urban forests. There is also leading in-house expertise in extension and community engagement, remote sensing, climate change modelling, and visualization techniques.

The Faculty of Forestry's Research Forests, and their educational facilities, offer unique field experiences in urban interface forestry and community protection. UBC is surrounded by a forested regional park. On campus we have an urban farm and examples of cutting-edge wood-based buildings and green energy technologies in operation, e.g., Forest Sciences Centre, Centre for Interactive Research on Sustainability, and a Biomass District Energy System. The state-of-the-art public engagement and video conferencing facilities at the BC Hydro Decision Theater provides a venue for workshops, training, community engagement and projects. Our Faculty works in communities across Canada and internationally with forestry and conservation projects. The efforts of the City of Vancouver to become the "greenest city in the world" by 2020, as well as UBC's most ambitious campus sustainability initiative in North America, provide good reasons for an urban forestry education at UBC. The Faculty has a proven track record and reputation in extension and continuing education activities. In addition, it has strong networks with forestry universities and practitioners internationally, especially with China, Europe and India. Our Conservation program also attracts large numbers of students from the USA; UBC's tuition fees are still reasonable for many US students when compared with out-of-state tuition fees.

2.12 Recognition from Other Post-Secondary Institutions and Professional Organizations

The Faculty's connections with Chinese universities are strong through well-established joint undergraduate programs and research projects. The existing transfer programs (3+2) with several Chinese forestry universities, in which student study the firsts three years in China and the last 2 years at UBC, provide a steady supply of international students to our undergraduate programs. These students often continue their studies at a master's level. Our Chinese partner universities, Beijing Forestry University, Nanjing Forestry University, Fujian Agriculture and Forestry University and Zhejiang Forestry University, have expressed strong support for the proposed MUFL program. Also linkages to European forestry schools are active on many levels, for example through the TRANSFOR-M Master's partnership, with good relationships with

leading institutions that offer urban forestry-related training. We have also established many connections to Indian educational and research institutions (Forest Research Institute of India, Wildlife Research Institute of India, Indira Gandhi National Forest Academy) through our training and research programs.

Close collaboration also exists with other faculties and departments at UBC. This has already been established through our Bachelor of Urban Forestry program and will naturally be extended for the MUFL. Key partners include, the School of Architecture and Landscape Architecture, the Sauder School of Business, the Faculty of Land and Food Systems, the School of Community and Regional Planning, the Institute for Resources, Environment and Sustainability, the School of Population and Public Health and the School of Public Policy and Global Affairs.

Lower mainland cities have also been very supportive for our urban forestry education and research programs, assisting in teaching courses, helping with research projects, providing internships for our students and co-organizing our urban forestry field school. The Faculty is an active member of the Canadian Urban Forestry Network (CUFN); jointly, with the City of Vancouver and the City of Surrey, we will organize a large international urban forestry conference in Vancouver in October 2018. We have an MoU with Tree Canada, the national level organization that promotes Canada's urban forests and inspires people to participate in, and advocate for, community greening. Their President is one of our Adjunct professors.

2.13 Related Programs at UBC and in British Columbia

UBC Forestry started the Bachelor of Urban Forestry program in September 2015. This program has done very well; enrolment was 34 in 2015, 101 in 2016, and 149 in 2017. No higher education institution in BC currently offers a formal graduate level program in urban forestry. There is graduate level research and some teaching of specific courses related to urban forestry in other UBC units such as: Landscape Architecture/SALA, Land Food Systems (LFS), Geography, School of Community and Regional Planning (SCARP), Institute for Resources, Environment and Sustainability (IRES), and Sociology and Anthropology. The Faculty of Applied Science offers two urban infrastructure and engineering related programs: The Master of Engineering Leadership (MEL) in Urban Systems, an intensive one-year degree that equips students with the high-level technical skills needed to develop practical and sustainable solutions to meet the challenges associated with large urban infrastructure systems and the Master of Urban Design (MUD), a one-year, full-time degree offered by the UBC School of Architecture and Landscape Architecture. Students will learn how to address the growing importance of cities to global sustainability and apply synthetic design approaches to city development. Although the proposed MUFL has many connections to these programs, it does not overlap in terms of learning objectives, outcomes or graduate employment profiles.

Other British Columbia higher education institutes offer related programs. Although MUFL has multiple linkages with these programs, they do not share similar learning objectives, outcomes or employment profiles. We have been in communication with the following programs and provided them our strategic plan for the MUFL. They have invariably been very supportive for our program and encouraged future collaboration. Vancouver Island University (VIU) Master of

Community Planning professional degree combines research, applied learning, and interactions with the professional planning community to give students the broad array of skills and knowledge for Community Planning career. University of Northern British Columbia (UNBC) Master of Arts in Natural Resources and Environmental Studies offers students the opportunity to pursue studies in the social or humanities dimensions of human-environment interactions (social, cultural, ethical, economic and political dynamics of resource and land use, and environmental change). Royal Roads University School of Environment and Sustainability offers an MA in Environment and Management (technical, policy, system and sustainability issues for leadership and management in environmental career) and an MA in Environmental Education and Communication (education and communication for development of environmentally sustainable social and economic systems). Simon Fraser University (SFU) Master of Urban Studies prepares students for a wide array of urban careers in government and the private and non-profit sectors. SFU and BCIT jointly offer a MSc in Ecological Restoration program which combines the strong technical and applied (experiential) knowledge at BCIT with SFU's fundamental (contextual) basic science and community engagement expertise. University of Victoria (UVIC) School of Environmental Studies offers MA and MSc programs in areas of ecological restoration, ethno ecology and political ecology. We believe that the differences in the content, delivery and direction of the above programs will attract students from different candidate pools and will prevent the programs from being in direct competition with the MUFL program.

2.14 Institutional Contact

Dr. Cecil Konijnendijk, Professor
Faculty of Forestry, University of British Columbia
2424 Main Mall, Vancouver, B.C. V6T 1Z4
Phone: 604-827-0191
Email: cecil.konijnendijk@ubc.ca

3. Program Description and Specification

3.1 Need for the Program

The demand for urban forestry is growing both in Canada and internationally. Highly-qualified urban forestry professionals are becoming increasingly necessary in cities around the world due to the rapid pace and scale of urbanization, the need to adapt to multiple impacts of climate change in cities, and increasing demand from the public for the recreational, psychological, and health benefits that trees and greenspaces provide. Moreover, urban woodlands and trees keep urban residents in touch with nature and biodiversity.

During the past decades, a global community of urban forestry practitioners and academics has emerged, with strongholds in North America, Europe and Southeast Asia. Jointly with other urban professions, and taking a socio-ecological approach, urban forestry professionals have a key role to play in planning sustainable urban development, adapting to the multiple impacts of climate change in cities, and meeting the growing demand from the public for the recreational

psychological and health benefits that greenspace networks provide. With increased flooding, urban heat islands and global warming projected to reach +4°C or more this century, cities may become unliveable or demand massive energy use for cooling, unless we can establish large scale, healthy urban and peri-urban forest systems. If we are to attain low-carbon, resilient, sustainable and vibrant communities that maintain or enhance both biodiversity and well-being for residents, we will need new types of urban forestry professionals equipped to deal with complex, multidisciplinary challenges.

Future urban forestry professionals will need to juggle new imperatives, such as managing urban ecosystems and conserving biodiversity, enhancing the health impacts of green infrastructure, providing settings for recreation and building social cohesion, moderating heat waves and cooling demand, controlling forest fire risks, storm-water flood mitigation, bio-energy production, providing for wood buildings, etc. Forests, trees and green systems will compete for space among buildings, roads/transit, storage facilities, and energy infrastructure. At the same time, cherished assets to be protected include property values, local jobs and businesses, outdoor recreation opportunities, and community character. Urban foresters of the future will need to stand shoulder to shoulder with other urban planning, infrastructure development, and management professionals in order to balance these competing imperatives in shaping sustainable urban environments.

UBC launched its Bachelor of Urban Forestry (BUF) program in 2015. The program has attracted considerable student interest: enrollment was 34 in 2015, 101 in 2016 and 149 in 2017. Students come from Canada, the US, China and other Southeast Asian countries, as well as other parts of the world. The interest in the BUF demonstrates the growing national and international interest.

3.2 Program Objectives and Themes

The program will include strong components on leadership, urban planning, public policy, business, project management, communication and marketing, and community engagement. The program will also introduce students to cutting-edge technologies in urban forest measurement and assessment, including new and emerging data sources. The program will be built around 3 critical management skills that form the backbone of the program: creativity, decision making, and leadership. These skills will not only be taught in individual courses but will be woven throughout the program

Through its proposed Master in Urban Forestry Leadership program, UBC aims to train urban forest planners and managers who:

- understand systems-thinking across the urban/rural interface,
- are knowledgeable about climate change adaptation and mitigation,
- can balance social, ecological and economic demands,
- are comfortable working with the public and stakeholders,
- can work in interdisciplinary teams, and
- have strong skills in planning as well as forest management.

By the end of the program, students will be able to:

1. Lead urban forestry programs and projects, and coordinate interdisciplinary teams.
2. Understand the political, governance, legal, administrative and business contexts of urban forestry, and connect urban forestry issues to wider government and other agendas.
3. Understand the specific challenges and opportunities associated with growing trees and other vegetation in urban areas.
4. Compile, use and present information on key aspects of urban forestry, such as urban forest resources, ecosystem services, arboriculture and urban woodland management, and interactions between people and trees.
5. Engage with communities and other partners in developing and implementing urban forestry programs and projects.
6. Work with urban forestry in local, national and international contexts.

3.3 Target Audience/Markets

The focus of the program is on professionals who already work with aspects of urban forestry, but who want to upgrade their knowledge, skills and networks to reflect the current state-of-the-art of urban forestry at the international level. The main target groups are:

- Professionals with work experience related to aspects of urban forestry in the public, private or not-for-profit sector. Students need to have a Bachelor's degree in a field relevant to urban forestry, such as forestry, landscape architecture, ecology, conservation, planning, geography, public health, or engineering.
- Recent graduates from the UBC Bachelor of Urban Forestry program, other graduates from UBC Faculty of Forestry or from similar programs elsewhere. Graduates from adjoining fields will be considered on a case-by-case basis.

The Faculty expects to admit 15-20 students in year 1 of the program, building up to 30 in subsequent years. It is expected that about 50% of students will be international, coming mainly from China (through our partner universities), United States, India and other developed and emerging economies in Asia-Pacific Region (Singapore, South Korea, Vietnam, Philippines and Indonesia). We will work to increase international enrolment from these and other countries.

The job market for the MUFL includes the following types of positions:

- Consultants for urban forest planning, management and tree care
- Urban foresters and land managers with federal, state, and especially local jurisdictions
- Managers and corporate administrators of urban tree care companies
- Policy makers for government and private organizations
- Researchers investigating the ecology of urban forests
- Staff in international organizations working with sustainable urban development, climate change adaptation, biodiversity conservation and the like

Employers may include:

- Upper and lower tier municipalities
- The arboricultural industry
- Consulting companies working for governments, private sector, public or NGOs

- Provincial government agencies
- Conservation Authorities
- Educational institutions
- Research facilities
- Independent utility corporations
- Not-for-profit organizations
- International organizations

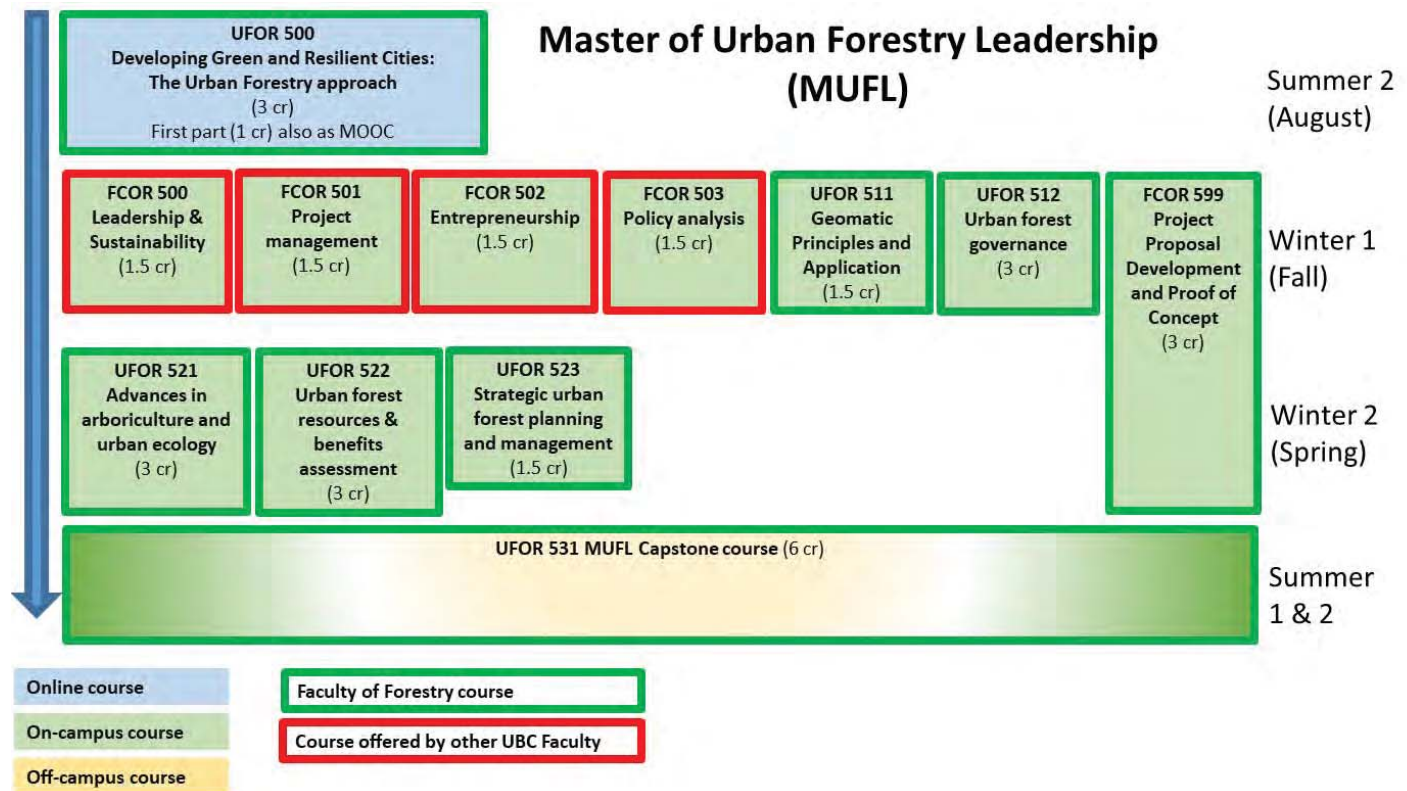
3.4 Program Requirements

The MUFL is a 13-month, four-term, course-based degree program consisting of 30 credits: The 30 required credits must include the following courses, or alternates as approved by the Program Director:

- UFOR 500 (3): Developing Green and Resilient Cities – The Urban Forestry Approach
- UFOR 511 (1.5): Geomatics Principles and Applications
- UFOR 512 (3): Urban Forest Governance
- UFOR 521 (3): Advances in Arboriculture and Urban Ecology
- UFOR 522 (3): Urban Forest Resources and Benefits Assessment
- UFOR 523 (1.5): Strategic Urban Forest Planning and Management
- UFOR 531 (6): MUFL Capstone Course
- FCOR 500 (1.5): Leadership and Sustainability
- FCOR 501 (1.5): Project Management
- FCOR 502 (1.5): Entrepreneurship
- FCOR 503 (1.5): Policy Analysis
- FCOR 599 (3): Project Proposal Development and Proof of Concept*

* Currently named MGEM 599 in Calendar, will be changed to FCOR 599 under separate curriculum proposal

3.5 Program overview



3.6 Admission Requirements

1. Students admitted to the MUFL Program must meet the Faculty of Graduate and Postdoctoral Studies master's degree admission requirements.
2. Applicants must have an academic background in a relevant field, such as urban forestry, forestry, landscape architecture, ecology, conservation, planning, geography, public health, or engineering. As part of the application package, applicants are required to submit a professional/educational dossier, statement of interest and questionnaire.
3. English Language Proficiency requirement: This will be an intensive program with a great deal of reading, writing and oral communication. Good English language skills are essential. Applicants with university credentials from outside Canada in which English is not the primary language of instruction must provide results of an English language proficiency examination as part of their application. Tests must have been taken within the last 24 months at the time of submission of the application. The required TOEFL minimum for the MIF program is 100–ibt or equivalent (IELTS = 7.0 minimum overall score with sub-category minimum scores of 6.5). Refer to the UBC Grad Studies page for more information.

Meeting the minimum academic requirements does not guarantee admission to the MUFL program.

3.7 Resources

Budget and Tuition Fees

The MUFL program budget was developed with assistance of the Provost's Office Strategic Decision Support (SDS) unit. Program tuition will be \$20,000 for domestic students and \$35,000 for international students for the program's 30 credit course load (based on 2019/2020 pricing). Tuition fees are slightly higher (7%) than the Faculty's existing three course-based masters programs (Sustainable Forest Management, International Forestry and Geomatics for Environmental Management) but similar to related UBC professional masters programs (Table 1). There are very few comparable programs (program focus, university ranking) around the world (Table 2). We estimate that the annual enrolment in the program will be 15-20 students in the first years of the program and 30-40 students annually after 5 years. We anticipate that at least 50% of the annual enrollment will be international. On acceptance into the program, students will be required to pay a \$1,000 CDN non-refundable deposit which will be applied to their first tuition installment.

Annual Faculty costs include (5 year average):

| | | |
|---------------------------|------------------|--|
| Program Lecturer | \$106,000 | (Salary with benefits) |
| Program Director | \$25,000 | (max 10% time allocation+ \$6,000 stipend) |
| Instructor buyout | \$80,000 | (4 courses x 20k, full cost of Instructor) |
| Program Administration | \$16,000 | (UBC For. Grad Office, 25% of CE programs) |
| Admission Support | \$12,000 | (UBC For Grad Office, 25% of CE programs) |
| TA support | \$30,000 | (5 x \$6,000) |
| Marketing | \$30,000 | (10% of salaries of marketing staff, material) |
| Sauder licensing | \$22,500 | (3 courses/ 50 % of licensing costs) |
| SPPGA licensing | \$7,500 | (1 course/ 50 % of licensing costs) |
| Space | \$16,000 | (1,000sf) |
| Student Financial Aid | \$50,000 | (by year 3) |
| Annual course development | <u>\$10,000</u> | |
| | \$405,000 | |

Table 1. Comparison of duration and tuition of the MUFL program to professional programs at UBC.

| Faculty | Program | Duration (mths) | Domestic Tuition 2018/19 | International Tuition 2018/19 |
|-----------------------|---|-----------------|--------------------------|-------------------------------|
| Forestry | Master of Sustainable Forest Management | 11 | \$18,300 | \$31,874 |
| Forestry | Master of International Forestry | 10 | \$18,300 | \$31,874 |
| Forestry | Master of Geomatics for Environmental Mgmt. | 9 | \$17,687 | \$32,960 |
| Land and Food Systems | Master of Food and Resource Economics | 12 | \$21,364 | \$41,369 |
| Land and Food Systems | Master of Land and Water Systems | 12 | \$19,347 | \$34,205 |
| Applied Science | Master of Urban Systems (MEL) | 12 | \$28,652 | \$48,801 |
| Applied Science | Master of Urban Design | 12 | \$18,401 | \$32,880 |
| | Averages | 11 | \$20,293 | \$36,280 |
| Forestry | Master of Urban Forestry Leadership | 13 | \$20,000 | \$35,000 |

Table 2. Comparison of the duration and cost of the MUFL program with the 6 programs worldwide.

| Univeristy | Program | Duration (mths) | Domestic Tuition 2018/19 | International Tuition 2018/19 |
|----------------------------------|--|-----------------|--------------------------|-------------------------------|
| University of Toronto | Master of Forest Conservation | 16 | \$13,300 | \$38,000 |
| Fleming College | Certificate in Urban Forestry | 12 | \$ 4,200 | \$14,300 |
| Copenhagen University | MSc. in Landscape Architecture/Green space mgmt. | 24 | \$ - | \$44,000 |
| University of Central Lancashire | MSc. in Arboriculture and Urban Forestry (on-line) | 36 | \$11,000 | \$14,000 |
| Oregon State University | Graduate Certificate in Urban Forestry (on-line) | 12 | \$12,000 | \$12,000 |
| Auburn University | Master of Natural Resources, minor in urban forestry | 12 | \$ 7,000 | \$19,000 |
| | Averages | 18 | \$ 7,917 | \$23,550 |
| University of British Columbia | Master of Urban Forestry Leadership | 13 | \$20,000 | \$35,000 |

Faculties belonging to same tier (4 best forestry faculties in the world) as UBC Forestry are in Scandinavia (SLU in Sweden and Helsinki University in Finland) and in US (Oregon State University). They do not have graduate level programs in urban forestry. SLU and Helsinki do not have fees for EU students. Outside EU students pay CAD\$40,000 in SLU and CAD\$44,000 in Helsinki for 2 year forestry master's program. However they do not have many outside EU students and those who enroll come usually with very generous EU scholarships that cover all costs. Oregon State Master of Forestry (Ecosystems and Society) is 1-1.5 year program (30 credits) cost CAD\$13,500 for Oregon Residents and CAD\$25,000 for non-residents.

Human Resources

The on-line course (UFOR 500) and three of the urban forestry courses (UFOR 512, UFOR 522, UFOR 523) will be taught by existing Faculty of Forestry faculty members. One course will be taught by a new MUFL lecturer (UFOR 521). The MUFL lecturer will also be in charge of co-organizing, the Capstone Preparation course (FCOR 599). Existing Faculty of Forestry faculty members involved in the MUFL program will be assigned as mentors to a small group of students as they complete their Capstone proposal. The new MUFL lecturer will also co-supervise the 6-credit Capstone project during the summer term along with the mentoring faculty members. A Sessional lecturer will be hired to teach the Geomatics Principles and Applications course (UFOR 511).

The core leadership, entrepreneurship and project management courses (FCOR 500, FCOR 501, and FCOR 502) will be taught by the Sauder School of Business. The policy analysis course (FCOR 503) will be taught by the UBC School of Public Policy and Global Affairs. MUFL pays 50% of the licensing fee for these courses (we share these courses with the Faculty's Master of Geomatics for Environmental Management program).

This proposed program will require the following additional human resources costs at the Faculty of Forestry:

- **Program Lecturer**
 - New hire
 - This position will include administrative, coordinator and lecturer duties including teaching up to three courses.

- The successful candidate would have expertise in urban forestry, program administration and project management.
- **Faculty Program Director**
 - Existing faculty member with stipend
- **Sessional Lecturer (1)**
 - New hire to teach Geomatics Principles and Application course, UFOR 511
- **TA assignments (5)** for the following courses:
 - Developing Green and Resilient Cities-The Urban Forestry Approach, UFOR 500 (1)
 - Urban Forestry Governance, UFOR 512 (1)
 - Advances in Arboriculture and Urban Ecology, UFOR 521 (1)
 - Urban Forest Resources & Benefits Assessment, UFOR 522 (1)
 - Geomatics Principals and Application, UFOR 511 (0.5)
 - Strategic Urban Forest Management and planning, UFOR 523 (0.5)
- **Administrative Support**
 - Admission Support, 25 % of the Professional Masters Admission Coordinators Salary and benefits
 - Program Administration at Faculty's Grad. Office, 25% of costs allocated to Professional Masters programs.

Space

Lectures and tutorials will be held in existing classrooms and seminar rooms, scheduled through Classroom Services. Faculty is currently researching options for work and storage space for MUFL students. In the financial analysis 1000 square feet were budgeted for the program.

Library

We have undertaken initial consultation with UBC Library services and provided the required and recommended books, journals and other literature for the program. We confirm that the Faculty of Forestry will purchase the required texts not held by the library. Texts will be made available in either hard copy or e-book.

An introduction to the library and web-based research will be held at the beginning of FCOR 599: Project Proposal Development and Proof of Concept.

4. Consultation

The MUFL advisory group was formed in the beginning of the program development. This consisted of members from the Faculty of Forestry (Cecil Konijnendijk, chair, Nicholas Coops, Stephen Sheppard, Stephen Mitchell, Rob Kozak, Yousry El-Kassaby, Lorien Nesbitt, Jorma

Neuvonen and Gayle Kosh), School of Architecture and Landscape Architecture (Kees Lokman), UBC School of Community and Regional Planning (Maged Senbel) and UBC School of Population and Public Health (Matilda van den Bosch). The Office of the Provost (Alison Stuart-Crump, Carolina Cerna, Debbie Hart, Gregor Kiczales, Monica Killeen, Lesley Charter-Smith, Denise Lauritano, Billy Jong and Meghan Aube) has provided support for the program development from the start.

With help from the Office of the Provost, a market survey was carried out in autumn 2016 to explore interest in a new Master of Urban Forestry Leadership program amongst both UBC alumni and current undergraduate students. The alumni survey was sent out to UBC alumni who graduated from Forestry and other relevant UBC programs during the past ten years. The views of 627 respondents are summarized below:

- Fourteen percent of all responding alumni (79 people) would consider enrolling in postgraduate studies in urban forestry, or had already applied to similar programs elsewhere.
- By far most respondents would consider UBC if they were to enroll in this type of program.
- The main reasons for considering postgraduate studies in urban forestry included the fact that urban forestry is interesting and offers an opportunity to link current education with an urban development context (52.2%) and that this allows for deepening skills and expertise to help launch a new career with a new employer (28.7%).
- Slightly more respondents were interested in a certificate than in a full Master's degree.

The undergraduate survey included current students from a range of relevant programs. The largest shares of the 224 respondents were from Bachelor programs in Geography (30.8%), Urban Forestry (18.7%) and Natural Resources Conservation (17.7%). Undergraduate survey key results summarized:

- Almost half of all respondents would consider postgraduate urban forestry studies.
- UBC was most respondents' preferred university.
- Students provided the following motivations for this: the MUFL looked like an interesting program and it offers opportunities to link current education with an urban development context (73.1%); growing field offering new career opportunities (58.1%); deepen my skills and expertise (56.9%).

As part of the market research, industry representatives from both Canada (9) and abroad (16) were interviewed. Canadian respondents included representatives from cities (Vancouver, Oakville, and Surrey), companies (Diamond Head Consulting, Gye & Assoc. Urban Forestry & Arboriculture, Blackwell Consulting), private consultants, universities (Dalhousie University) and national urban forestry organizations (Tree Canada). International respondents included representatives from city urban forestry departments (Melbourne, New York City, San Diego and Stavanger), academia (universities in China, Hong Kong, the US and the UK), private consultants, international organizations (the European Forest Institute and the Food and Agriculture Organization of the UN), national government (the USDA Forest Service) and

national professional bodies for arboriculture and (urban) forestry in Japan and the UK. The key results of these Industry interviews are as follows:

- Most respondents saw job opportunities for MUFL graduates within their organizations, especially if the program would have a strong focus on leadership, project management, public policy and communication.
- All clearly see the need of an MUFL-like program.
- Representatives from cities such as Vancouver and Surrey could identify several current and upcoming municipal positions where MUFL graduates would be considered. Lack of highly qualified urban forestry job applicants means that current practice in many cities is to recruit people with a general forestry or conservation background, and then to have them adapt to the specific urban context through on the job training.

The MUFL program strategy document was sent to program directors of related master programs (see 2.13 page 8) at the University of Victoria, Simon Fraser University, BCIT, Vancouver Island University and University of Northern British Columbia. They were very supportive for our program and encouraged future collaboration.

Two consultation sessions were held within the Faculty of Forestry to obtain feedback from Faculty members, post-doctoral fellows, graduate and undergraduate students. A total of 30-40 people attended these sessions.

Faculty:

- Forestry faculty were generally supportive of the program as proposed.
- Faculty were supportive of the leadership focus of the program and sharing core courses among professional Forestry master's programs.
- Some faculty felt that urban forest ecology should be addressed in the program curriculum. We subsequently updated UFOR 521 (Advances in Arboriculture and Urban Ecology) to include a more explicit focus on urban forest ecology and tree diversity.
- Some faculty raised the issue that students will need to have the necessary quantitative and qualitative skills to complete their Capstone Projects. We have addressed this concern via the mentorship and proposal preparation structure in FCOR 599 and UFOR 531.

Students:

- Students were generally supportive of the program as proposed.
- Students were very attracted to the leadership focus of the program.
- Students were generally supportive of the proposed fee structure as it is in line with other professional graduate programs at Forestry and at UBC
- Students had questions on prerequisites and how to qualify for entry to the program. These requirements have been clarified in the proposal and will be made clear in program marketing materials

5. Category 1 Proposal Form: Create New Program

Category: 1

| | |
|---|---|
| Faculty: Forestry Department: Forestry Graduate Program Unit - Dean's Office Faculty Approval Date: Effective Session: Summer Term 2 Effective Academic Year: 2019 | Date: Contact Person: Dr. Cecil Konijnendijk Phone: 604-827-0191 Email: cecil.konijnendijk@ubc.ca |
| URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,1164 Proposed Calendar Entry: Forestry Degrees offered: Ph.D., M.Sc., M.A.Sc., M.F., M.G.E.M., M.I.F., M.S.F.M, M.U.F.L. Program Overview The graduate program in Forestry offers advanced study in natural and social science, management, and economic aspects of forestry and wood science, in an interdisciplinary setting. Detailed information about specific areas of research can be found on the Forestry website . In addition to its thesis-based programs, the graduate program in Forestry also offers five course-based degrees: the Master of Forestry , the Master of International Forestry, the Master of Sustainable Forest Management, the Master of Geomatics for Environmental Management and the Master of Urban Forest Leadership . The Faculty operates research forests at Vancouver and Williams Lake which support many research and education activities. The Faculty encourages international and First Nations students to be involved in our research. Master of Geomatics for Environmental Management | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,828,1164 Present Calendar Entry: Forestry Degrees offered: Ph.D., M.Sc., M.A.Sc., M.F., M.G.E.M., M.I.F., M.S.F.M Program Overview The graduate program in Forestry offers advanced study in natural and social science, management, and economic aspects of forestry and wood science, in an interdisciplinary setting. Detailed information about specific areas of research can be found on the Forestry website . In addition to its thesis-based programs, the graduate program in Forestry also offers three course-based degrees: the Master of International Forestry, the Master of Sustainable Forest Management, and the Master of Geomatics for Environmental Management. The Faculty operates research forests at Vancouver, Williams Lake, and Prince George (with UNBC), which support many research and education activities. The Faculty encourages international and First Nations students to be involved in our research. Type of Action: <ol style="list-style-type: none"> 1. Create new graduate degree program. 2. Include missing program in the Program Overview section |

Students are also required to complete 3 elective credits. Alternate core credits may be allowed if approved by the Program Director

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Master of Urban Forestry Leadership

Admission Requirements:

Students must meet the Faculty of Graduate and Postdoctoral Studies master's degree [admission requirements](#). Applicants must have an academic background in a relevant field (e.g. urban forestry, forestry, environmental science, geography, engineering, social sciences). Please consult the [program website](#) for additional details regarding academic background requirements, and a list of required application documents.

For information on the English Language Requirements for admission please refer to: <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,345,0>

Program Requirements:

The M.U.F.L is a 13-month, four-term non-thesis degree program consisting of 30 required credits:

- UFOR 500 (3)
- UFOR 511 (1.5)
- UFOR 512 (3)
- UFOR 521 (3)
- UFOR 522 (3)
- UFOR 523 (1.5)
- UFOR 531 (6)
- FCOR 500 (1.5)
- FCOR 501 (1.5)
- FCOR 502 (1.5)
- FCOR 503 (1.5)
- FCOR 599 (3)

Alternative courses may be allowed if approved by the Program Director.

Rationale for Proposed Change:

1) The demand for urban forestry is growing both in Canada and internationally. Highly-qualified urban forestry professionals are becoming increasingly necessary in cities around the world due to the rapid pace and scale of urbanization, the need to adapt to multiple impacts of climate change in cities, and increasing demand from the public for the recreational, psychological, and health benefits that trees and greenspaces provide.

UBC is consistently ranked among the world's top 40 universities, with the Faculty of Forestry being a leader in natural resources education and research. The Faculty of Forestry has outstanding resources and capacity to offer a world-class professional graduate program focused on Urban Forestry Leadership.

In keeping with UBC's vision, our target graduates will be exceptional global citizens, who promote the values of a civil and sustainable society. Graduates will understand the global context for urban forestry decision making and apply this to the formulation of urban forest policies and plans. The program will enrich the scholarly life of the Faculty and serve to attract outstanding students, domestic and international. The program draws on and leverages existing capacity within our Faculty. Our fee structure will enable full cost recovery over the medium term and will improve the cost efficiency of the faculty by increasing enrollment. We will seek to have the program recognized as a flagship program within UBC's University Sustainability Initiative.

2) Our existing degree, The Master of Forestry, is not mentioned in the Academic Calendar's Program Overview section. We would like to correct this mistake.

6. Category 1 Proposal Forms: New Courses

Category: 1

| | |
|--|--|
| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: Summer Term 2 Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 500 (3) Developing Green and Resilient Cities – The Urban Forestry Approach Online course on the importance of urban green space and urban trees for cities. | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: MUFL students learn to understand the role and benefits of green space and trees in cities, and about different approaches to city greening, with emphasis on urban forestry. This course is offered as an online course, with MUFL students expected to successfully complete it before the start of the winter term on campus. |

Category: 1

| | |
|--|---|
| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Nicholas Coops Phone: (604) 822-6452 Email: Nicholas.coops@ubc.ca |
| Proposed Calendar Entry: UFOR 511 (1.5) Geomatics Principles and Applications Use and application of remote sensing, GIS, GPS and spatial data analysis. | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR Present Calendar Entry: N/A Type of Action: |

| | |
|--|--|
| | <p>Create new course</p> <p>Rationale for Proposed Change: This course will provide MUFL students with an understanding of use and application of remote sensing, GIS, GPS and spatial data analysis in urban forestry context. These are tools and techniques commonly used in urban forestry planning and management.</p> |
|--|--|

Category: 1

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| <p>Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W</p> <p>Effective Academic Year: 2019</p> | <p>Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>UFOR 512 (3) – Urban Forest Governance Governance theory and ways of applying a governance perspective to strategic decision-making in urban forestry.</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: Building on environmental governance perspectives in particular, MUFL student are provided with an overview of frameworks and methods that can be applied to understand, and operate in urban forest governance in different contexts and at different scales. They have to learn to understand the linkages between governance, policy and politics, and about the role of community engagement in urban forestry.</p> |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 521 (3) – Advances in Arboriculture and Urban Ecology Overview of the field and current state-of-art of arboriculture, with emphasis on current research and good practices. | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: MUFL students will learn about the role of arboriculture within the wider field of urban forestry. Moreover, an ecological and tree diversity perspective will be introduced to enhance the management and resilience of urban forests. Students are taught to analyze arboricultural approaches and tools for application in different contexts and discuss the role of arboriculture in urban forest action planning and management. They will need to understand the key aspects of professionalism in arboriculture, and the interactions of arborists with other professionals. |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 522 (3) – Urban Forest Resources and Benefits Assessment Overview of the state of the art assessment of urban forest resources and their benefits Prerequisites: UFOR 511 | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: MUFL students will build on the GIS and/or spatial analysis skills gained in UFOR 511 course; they will learn to examine data sources, theoretical approaches, and tools commonly employed in urban forest assessment. They also will be introduced to examples of tool applications and will learn how to develop rigorous approaches to urban forest assessment in a variety of contexts. |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 523 (1.5) – Strategic Urban Forest Planning and Management | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR Present Calendar Entry: N/A |

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| <p>Application of urban forestry concepts to the strategic urban forest planning and management.</p> <p>Prerequisites: - UFOR 500, 511, and 512</p> | <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This course will introduce MUFL students to the principles and practice of adaptive management and tools for planning and management such as structured decision making and monitoring and evaluation. Students will also be encouraged to develop the skills needed to guide planning and management processes through in-class exercises and assignments.</p> |
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Category: 1

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| <p>Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: Summer Effective Academic Year: 2020</p> | <p>Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>UFOR 531 (6) – MUFL Capstone Course Application of urban forestry concepts and skills in a project-based learning experience.</p> <p>Prerequisites: FCOR 599</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=UFOR</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This course ties together the concepts and skills learned in the previous two terms and provides students the opportunity to apply them in a project-based learning experience. Students will work with their faculty mentors to review, revise as necessary, and implement their project proposals developed in FCOR 599 (Project Proposal Development and Proof of Concept).</p> |

Category 1: Create New Course Code

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: 6 th November 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-0191 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: FCOR – Forestry Core (Professional Masters) | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code Present Calendar Entry: None Type of Action: Create new course code Rationale for Proposed Change: The Faculty of Forestry proposes a new course code to identify courses that were developed for Faculty's professional program platform, shared by the existing and proposed professional masters programs. A new code is needed to reflect the distinct purpose (only available for professional masters programmes' students) of these courses that we developed by the Faculty of Forestry, Sauder School of Business and UBC School of Public Policy and Global Affairs. In addition, as Forestry increases its 500-level course offerings, we are running out of numbering options within the existing FRST code. |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| <p>Proposed Calendar Entry:</p> <p>FCOR 500 (1.5) – Leadership and Sustainability Sustainability, change agency, systems thinking; personal awareness and perspective taking for effective engagement and communication; adaptive leadership; human change dynamics; cross-disciplinary cases studies in organizational and social change. Credit will be granted for only one of FCOR 500 or APPP 502.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: UBC Forestry has created three management / leadership courses in collaboration with the Sauder School of Business (1.5 credits each) and a policy analysis course (1.5 credits) with the UBC School of Public Policy and Global Affairs. These courses provide students with personal and professional skills to lead urban forestry programs and projects, coordinate interdisciplinary teams and understand various political, governance, legal, administrative and business contexts of urban forestry. This course was originally developed for the Faculty of Applied Sciences' Master of Engineering Leadership (MEL) Professional Program Platform. It was slightly adapted for natural resources/forestry disciplinary audience with Sauder School of Business approval.</p> |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: FCOR 501 (1.5) – Project Management Project management concepts, processes and tools for the environmental and forestry sectors. Credit will be granted for only one of FCOR 501 or APPP 501. | URL: N/A Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: UBC Forestry has created three management / leadership courses in collaboration with the Sauder School of Business (1.5 credits each) and a policy analysis course (1.5 credits) with the UBC School of Public Policy and Global Affairs. These courses provide students with personal and professional skills to lead urban forestry programs and projects, coordinate interdisciplinary teams and understand various political, governance, legal, administrative and business contexts of urban forestry. This course was originally developed for the Faculty of Applied Sciences' Master of Engineering Leadership (MEL) Professional Program Platform. It was slightly adapted for natural resources/forestry disciplinary audience with Sauder School of Business approval. |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W term 1 Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: FCOR 502 (1.5) – Entrepreneurship Fundamentals of innovation and entrepreneurship. Credit will be granted for only one of FCOR 502 or BAEN 550. | URL: N/A Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: UBC Forestry has created three management / leadership courses in collaboration with the Sauder School of Business (1.5 credits each) and a policy analysis course (1.5 credits) with the UBC School of Public Policy and Global Affairs. These courses provide students with personal and professional skills to lead urban forestry programs and projects, coordinate interdisciplinary teams and understand various political, governance, legal, administrative and business contexts of urban forestry. This course was originally developed for the Faculty of Applied Sciences' Master of Engineering Leadership (MEL) Professional Program Platform. It was slightly adapted for natural resources/forestry disciplinary audience with Sauder School of Business approval. |

Category: 1

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| Faculty: Forestry Dept: Forest Resources Management Faculty Approval Date: Nov 9, 2017 Effective Session: W term 1 Effective Academic Year: 2019 | Date: Nov 1, 2017 Contact Person: Cecil Konijnendijk Phone: 604-827-1091 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: FCOR 503 (1.5) – Policy Analysis Fundamentals of policy analysis and project evaluation, with an emphasis on the practical decision making and behavioral considerations that underlie policy making, stakeholder engagement, and implementation processes. | URL: N/A Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: UBC Forestry has created three management / leadership courses in collaboration with the Sauder School of Business (1.5 credits each) and a policy analysis course (1.5 credits) with the UBC School of Public Policy and Global Affairs. These courses provide students with personal and professional skills to lead urban forestry programs and projects, coordinate interdisciplinary teams and understand various political, governance, legal, administrative and business contexts of urban forestry. This course was developed by the School of Public Policy and Global Affairs for the professional masters programs in the Faculty of Forestry. |



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THE UNIVERSITY OF BRITISH COLUMBIA

Office of the Senate
Brock Hall | 2016 - 1874 East Mall
Vancouver BC V6T 1Z1

Phone 604 822 5239
Fax 604 822 5945
www.senate.ubc.ca

28 February 2018

To: Vancouver Senate
From: Senate Curriculum Committee
Re: February Curriculum Proposals (approval)

The Senate Curriculum Committee has reviewed the material forwarded to it by the faculties and encloses those proposals it deems as ready for approval.

The following is recommended to Senate:

Motion: *“That the new courses, new course code, revised courses, new minor, new major, new dual degree programs, revised programs, and revised program options, brought forward by the faculties of Applied Science, Arts, Commerce and Business Administration, Education, Forestry, and Graduate and Postdoctoral Studies (Applied Science, Arts, Commerce, Education, Forestry, Medicine and Science) and Land and Food Systems be approved.”*

Respectfully submitted,

Dr. Peter Marshall, Chair

Senate Curriculum Committee



FACULTY OF APPLIED SCIENCE

New course

PLAN 341 (3) Smart Cities: Concepts, Methods and Design.

FACULTY OF ARTS

New courses and revised academic regulations

ASIA 323 (3) History of Cantonese Worlds; HIST 377 (3) History of Cantonese Worlds; ENGL 247 (3) Television Studies; ENGL 248 (3) Mystery and Detective Fiction; ENGL 327 (3-6) d Cognitive Approaches to the Study of Meaning; ENGL 365 (3-6) d Modernist Literature; ASIA 312 (3) Buddhism in Korea; ASIA 345 (3) Chinese Film Classics; ASIA 407 (3) North Korea in Historical Context; ARTH 381 (3) The Artist in the World; ENGL 334 (3-6) d Literature and the Archive; ENGL 335 (3-6) d Digital Humanities; ENGL 336 (3-6) d Print Culture and Media Studies; ENGL 337 (3-6) d Text and Image; ENGL 338 (3-6) d Literature and Science; ENGL 339 (3-6) d Trauma and Memory: Literature, Performance and Theory; ENGL 360 (3-6) d Early Canadian Writing; ENGL 370 (3-6) d Literatures and Cultures of Africa and the Middle East; ENGL 379 (3-6) d Migrations, Movements, and Transnational Networks in Literary and Cultural Production; GEOG 313 (3) Environmental Justice and Social Change; GEOG 314 (3) Analysing Environmental Problems; POLI 379 (3/6) d China in World Politics; POLI 424 (3/6) d Ethics in Democratic Politics; ACAM 250 (3) Asian Canadians in Popular Culture; GRSJ 315 (3) Critical Racial Theories; GRSJ 316 (3) Queer and Trans of Colour Theorizing; GRSJ 415 (3) Critical Racial and Anti-Colonial Feminist Approaches; BIE>Academic Regulations.

FACULTY OF COMMERCE AND BUSINESS ADMINISTRATION

Revised program option, new and revised courses

UBC Bachelor of Commerce Dual Degree with Sciences Po Program Option; COEC 294 (3) Managerial Accounting; COMM 294 (3) Managerial Accounting.

FACULTY OF FORESTRY

New dual degree programs, program option and new courses

Dual Degree Program in Forest Sciences and Education; Dual Degree Program in Natural Resources Conservation and Education; Land One Cohort Option; FRST 101 (3) Principles of Microeconomics for Forestry and Land and Food Systems; FRST 110 (3) Land One: First-year Integrative Seminar; FRST 150 (3) Scholarly Writing and Argumentation in Forestry; WOOD 488 (3) Wood Products Design and Development I; WOOD 489 (3) Wood Products Design and Development II; UFOR 101 (3) Urban Forest Inventory and Assessment; UFOR 201 (3) Introduction to Urban Forest Design; UFOR 316 (3) Trees and Shrubs in Landscape; UFOR 495 (3) Biodiversity in Urban Areas.



FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

Applied Science

New courses

APSC 520 (6): Co-op Work Term I; APSC 521 (6): Co-op Work Term II; APSC 522 (6): Co-op Work Term III

Arts

New course code and new courses

COLX Computational Linguistics; COLX 521 (1) Corpus Linguistics; COLX 523 (1) Advanced Corpus Linguistics; COLX 525 (1) Computational Morphology; COLX 527 (1) Advanced Computational Morphology; COLX 531 (1) Machine Translation; COLX 533 (1) Advanced Machine Translation; COLX 535 (1) Parsing for Computational Linguistics; COLX 561 (1) Computational Semantics; COLX 563 (1) Advanced Computational Semantics; COLX 565 (1) Sentiment Analysis; COLX 581 (1) Natural Language Processing for Low-Resource Languages; COLX 585 (1) Trends in Computational Linguistics; COLX 595 (6) Capstone Project; POLI 567 (3/6) d Norms and Ethics in World Politics

Commerce

New courses

BAEN 548 (1.5) Social Entrepreneurship; BAEN 549 (1.5) Innovation and Sustainability; BAFI 519 (1.5) Topics in Investment Management; BAHM 517 (1.5) Business Communications; BASM 510 (1.5) Consulting Simulation

Education

New course

EDCP 533 (3) Health, Outdoor and Physical Experiential Education Curriculum, Pedagogy and Place in the Elementary School

Medicine

New courses

BIOC 552 (1.5) Membrane Proteins; BIOC 553 (1.5 credits) Advanced Topics in Lipid Biology; BIOC 554 (1.5) Nucleic Acids: DNA/RNA Structure and Function; BIOC 555 (1.5) Epigenetics; BIOC 557 (1.5) Advanced Topics in Biochemistry; BIOC 558 (1.5) Advanced Topics in Protein Chemistry I; BIOC 559 (1.5) Advanced Topics in Protein Chemistry II; BIOC 560 (1.5) Computational Approaches in Biochemistry.

Science

New program option

Master of Data Science Computational Linguistic Option



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FACULTY OF LAND AND FOOD SYSTEMS

New program options, new minor, new major, and new courses

Land One Cohort Option; LFS 110 (3) Land One: First-year Integrative Seminar; LFS 101 (3) Principles of Microeconomics with Applications to Land and Food Systems; Minor in Fermentations; Sustainable Agriculture and Environment Major; GRS 300 (3) Global Water and Energy Nexus

UBC Curriculum Proposal Form Change to Course or Program

Category: 1

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| <p>Faculty: Applied Science Department: School of Community and Regional Planning (SCARP) Faculty Approval Date: October 20, 2017 Effective Session: W Effective Academic Year: 2018</p> | <p>Date: November 27, 2017 Contact Person: Su-Jan Yeo (on behalf of Penny Gurstein, Director, SCARP) Phone: N/A Email: sujan.yeo@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>PLAN 341 (3) Smart Cities: Concepts, Methods and Design</p> <p>Rapid transformation of cities by information technology and socio-economic innovation; growth in citizen-generated data and the internet of things; emerging theory, methods, and frameworks for understanding “Smart Cities”.</p> <p><i>Prerequisites:</i> Third-year standing or above in any program. Second year students may be admitted with permission of instructor.</p> <p>This is not a Pass/Fail or Honours Pass/Fail Grading</p> | <p>URL: http://www.calendar.ubc.ca/VANCOUVER/courses.cfm?page=code&code=PLAN</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course.</p> <p>Rationale for Proposed Change: The School of Community and Regional Planning (SCARP) is currently exploring the development of a new undergraduate program that is intended to bring together the three thematic areas of technology, environment, and culture in the study of our urbanizing world. SCARP plans to undertake a phased approach in this vision towards an undergraduate program and is currently piloting 4 new undergraduate courses in 2017/18:</p> <ol style="list-style-type: none"> 1. PLAN 211 (3) City-Making: A Global Perspective 2. PLAN 221 (3) City Visuals 3. PLAN 321 (3) Indigeneity and the City 4. PLAN 331 (3) The Just City in a Divided World <p>The proposed course on “Smart Cities” would allow SCARP to further “test the waters” on a pressing topic that could be relevant to undergraduate students from a range of disciplines across the faculties of Applied Science, Science, and Arts.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only)</p> <p>Rationale for not being available for Cr/D/F: N/A</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading</p> |

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| Category: 1 Faculty: Arts Department: Asian Studies Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): W Effective Academic Year: 2018 | Date: June 28, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca; |
| Proposed Calendar Entry: ASIA 323 (3) History of Cantonese Worlds The history, culture, languages, and identities of the multi-faceted Cantonese worlds, in the context of Chinese history and the Cantonese diaspora. <i>Equivalent: HIST 377</i> | URL: “ASIA” Present Calendar Entry: None Type of Action: New Course Rationale for Proposed Change: Cantonese (with all its varieties) is estimated to be spoken by some 80 million people. This course complements the UBC curriculum in two ways: 1) As an Asian Studies course, it will be an important component of our emerging Hong Kong/Cantonese Studies program. 2) As a History course, it adds to our offerings in the areas of Chinese/Hong Kong/Asian Canadian/migration history. This course should be of great interests to students not only from Asian Studies or History but also from Business, Economics, or Political Science. (<i>Linked to: HIST 377.</i>) |

This course is cross listed with ASIA 323, all discussions and material are housed in the ASIA section, above.

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| Category: 1 Faculty: Arts Department: Asian Studies Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): W Effective Academic Year: 2018 | Date: May 26th, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca; |
| Proposed Calendar Entry: HIST 377 (3) History of Cantonese Worlds The history, culture, languages, and | URL: “HIST” Present Calendar Entry: None Type of Action: New Course |

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| <p>identities of the multi-faceted Cantonese worlds, in the context of Chinese history and the Cantonese diaspora.</p> <p>Equivalent: ASIA 323</p> | <p>Rationale for Proposed Change:</p> <p>Cantonese (with all its varieties) is estimated to be spoken by some 80 million people. This course complements the UBC curriculum in two ways: 1) As an Asian Studies course, it will be an important component of our emerging Hong Kong/Cantonese Studies program. 2) As a History course, it adds to our offerings in the areas of Chinese/Hong Kong/Asian Canadian/migration history. This course should be of great interests to students not only from Asian Studies or History but also from Business, Economics, or Political Science. (<i>Linked to: Asian Studies ASIA 323.</i>)</p> |
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| <p>Category: (1) Faculty: Arts Department: English Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): 2018 Effective Academic Year: W</p> | <p>Date: April 19, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>ENGL 247 (3) Television Studies</p> <p>Introduction to methods and practices of television studies, with emphasis on the use of literary approaches to televisual narrative.</p> <p><i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Second-year standing and 3 credits of 100-level ENGL or one of WRDS 150 or 350, ASTU 100 or 101, ARTS 001).</p> | <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: Television Studies offers an introduction to a scholarly discipline widely taught across North American and UK departments of English, Cultural Studies, and Media Studies, but that is not offered in a standalone course at UBC. This course will provide a formal framework for content that is currently included as an add-on element of several English courses. Delivery systems for televisual narrative continue to evolve; the focus of this course is the methods for critical engagement with serial visual narrative consumed as part of twentieth- and twenty-first century screen cultures. Arguably the most widely-consumed form of media in the last half century, television narrative has been a deeply influential social force; students in this course will develop the skills to critically engage televisual narrative and to examine the cultural work that it performs. Television Studies is expected to have a broad appeal among English students, as well as the English faculty and will provide a base understanding for students interested in our upper-level courses on “Print Culture and Media Studies” or “Text and Image” as well as those with general interest in media studies.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English scholarship. They respond to faculty teaching interests, with enough flexibility to account for the</p> |

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| | progressive transformation of the department's pedagogical goals, and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and cultural literacy. |
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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): 2018 Effective Academic Year: W | Date: January 24, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ENGL 248 (3) Mystery and Detective Fiction Thematic and generic approaches to mystery, crime, and detective writing in English, primarily short-fiction and novels; may also include comics, radio, film, and television. <i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Second-year standing and 3 credits of 100-level ENGL or one of WRDS 150 or 350, ASTU 100 or 101, ARTS 001). | Type of Action: New Course <i>Note to Scheduling:</i> Please create ENGL 248A with Short title of "British Fic&TV" Rationale for Proposed Change: This course, ENGL 248: Mystery and Detective Fiction , contributes to this curriculum revision by providing students an opportunity to probe in a serious critical way one of the most popular and influential modes of modern and contemporary writing. Though mystery and detective fiction is all but ubiquitous in the literary marketplace, it has also generated a good deal of important and influential academic study both in its own right and as the occasion for theoretical inquiry into, for instance, capitalist ideology, psychoanalysis, social justice, and human rights. Courses on mystery and detective fiction (and other media) are taught widely in English departments across North America: UBC has never offered it. Understanding critically the ideological codes of contemporary media, including news, television, and social-media based |

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| | <p>journalism, as well as other areas of popular culture often entails understanding the way they have adapted the generic styles and protocols of mystery writing, which since its inception in the nineteenth-century, has both reinforced and challenged the legal processes of the criminal justice system as well as their broader economic and political implications. Because of the subject's specific orientation toward questions of criminality and social justice, the course can also provide an important forum for students to reflect on issues that directly affect their lives and futures.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy.</p> |
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| Faculty: Arts Department: English Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): W Effective Academic Year: 2018 | Date: April 19, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca ; |
| Proposed Calendar Entry: ENGL 327 (3-6) d Cognitive Approaches to the Study of Meaning Interpretation of linguistic usages through cognitive concepts. | Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: This new course Cognitive Approaches to |

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| <p>Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.</p> | <p>the Study of Meaning is needed for several reasons:</p> <ol style="list-style-type: none"> 1. The program has no courses devoted specifically to semantics, one of the central areas of language study; this is an important gap that needs to be filled. 2. The cognitive linguistic methodologies offer the most versatile and complete explanations of meaning emergence, including word, sentence, and text level. This will be the first course teaching this. 3. The approaches correspond well to student interests in the Department, as they can be used in the context of a range of enquiries – focused either on linguistic phenomena, or on discourse, or on literary texts. This makes the course important and accessible to all students in English, and beyond. 4. Such a course would fit well with other program changes in English; especially, it could be recommended to students taking the major in English which combines language and literature study. <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English language studies.</p> |
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| <p>Category: (1) Faculty: Arts Department: English Faculty Approval Date: 2017 Oct 16 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: April 19, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>ENGL 365 (3-6) d Modernist Literature</p> <p>Literary experimentation in 19th to 20th century movements known as modernism. Includes interdisciplinary approaches to literary, performance, and media arts, and</p> | <p>Present Calendar Entry: n/a</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change: This course, Modernist Literature (ENGL</p> |

intellectual and social histories of the period.

Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.

365), contributes to this curriculum revision by enabling students to comprehensively explore a body of literature (and its contexts) which transmits its critical influence backward and forward to other periods, styles, and areas of scholarship, through its contemporariness, experimental spirit, and verbal sophistication.

From its beginnings as a grouping of intellectual and aesthetic movements founded on what Eliot calls “the new (the really new),” modernism has struggled to define itself, and that struggle against its own ossification within the finality of some set of particular conventions may serve as its best delineation. As an intellectual and artistic engagement with, in Vincent Sherry’s phrase, “the surcharged Now,” modernist practices are committed to a conscious questioning of the past, to a hermeneutics of suspicion, and to the creative violation of poorly grounded pieties. Modernist studies, like its object, has lent its critical temper and its commitment to sophisticate its own technique not only to other fields in English but to disestablishing tendencies in social-cultural theory among the humanities and social sciences in general.

Despite modernist literature’s wide impact within literary studies, critical theory, and cultural history, UBC has never offered a course specifically prescribed to modernist literature, as those offerings were mostly subsumed under the national categories of American, Canadian, British and Irish literature. However, modernist studies has taken a global and transnational turn which renders that arrangement, which was always troublesome, obsolete. Offerings under this course can focus on one or another of the significant movements within the modernist turn such as, for

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| | <p>instance, Symbolism, Surrealism, or the High Modern, or they can survey fresh areas in modernist studies such as queer modernisms, little magazines, new cosmopolitanisms, or perform a comparative study of the various modernisms in, for example, Japan, Latin America, East Asia, or Northern Africa and the Middle East. The course also provides opportunities for engagement across disciplines for students in CSIS, English, FHIS, Classics, CENES, Theatre and Film, History, Geography, Sociology, and Philosophy.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy.</p> |
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ASIA: Asian Studies***ASIA 312 (3) Buddhism in Korea***

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| Category: 1 Faculty: Arts Department: Asian Studies Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 6, 2017 Contact Person: Lois Nightingale and Lyndsay Bocchinfuso Email: lyndsay.bocchinfuso@ubc.ca ; Art.s.Curriculum@ubc.ca ; URL: “ASIA” |
| Proposed Calendar Entry: ASIA 312 (3) Buddhism in Korea Historical, cultural and philosophical development of Korean Buddhism. | Present Calendar Entry: None Type of Action: New Course Rationale for Proposed Change: This course will introduce students to Korean Buddhism, a representative form of Mahāyāna Buddhism in East Asia. Buddhism, which was introduced to the Korean Peninsula around the fourth century CE, has played a significant role in the formation and development of Korean history, culture and thought. As one of the major religious traditions in Korea, Buddhism continues to exercise its influence on the way of life and thinking of contemporary Korean people. This course will explore the historical, cultural and philosophical development of Korean Buddhism in close relation to Mahāyāna Buddhist traditions in neighboring East Asian countries, including China and Japan. In doing so, the course will discuss distinctive forms of the Korean Buddhist tradition that have developed in a specific and complex historical and cultural context. This course will contribute to enriching and diversifying the curriculum of the Department of Asian Studies, especially in the programs of Buddhist studies and Korean studies. The course will complement existing courses, such as |

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| | <p>ASIA 250 “Introduction to Buddhism” and ASIA 303 “Mahayana Buddhism,” by providing a detailed exploration of how the Mahāyāna Buddhist tradition developed in East Asia. As a complement to ASIA 382 “Buddhism in China,” the Korean Buddhism course will help students to develop comparative views of East Asian Buddhist traditions by examining how Koreans adopted Buddhism from China and developed it in their own way. Similarly, it will offer students a more comprehensive knowledge of East Asian Buddhism by discussing the transmission of Buddhism from Korea to Japan and, furthermore, the complex interactions between the Buddhist traditions of Korea and Japan. The course will also enhance the Korean studies curriculum in the department and supplement existing courses, such as ASIA 317 “The Rise of Korean Civilization” and ASIA 377 “History of Korean Thought.” Given that no course exists that specifically looks at Korea from a Buddhist studies perspective, the course on the Korean Buddhist tradition will cover a current disciplinary gap in the Korean studies curriculum. As Buddhism is an important component of Korean culture and civilization, the course will satisfy students’ continuing interests in Korean culture. It will also be of interest to the increasing number of international students from South Korea at UBC. 2</p> <p>The impact of the new course is expected to go beyond the Department of Asian Studies by attracting students in other departments and programs at UBC, such as History, Anthropology, Sociology and Philosophy. The course, which will discuss the Buddhist tradition in Korea from ancient to modern times in a variety of contexts, will offer students important background knowledge and information that is necessary for understanding the</p> |
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| | <p>society and culture of Korea as well as those of East Asia in general. The course will also draw the attention of students who are concerned with Buddhist and Asian visual culture, as the course deals with Buddhist art that has developed in Korea for thousands of years. In class, students will read recent works on Korean Buddhist art, particularly works that approach Korean Buddhist history and culture using visual material, such as Rhi Juhjung's article on the image of Maitreya Buddha during the Silla dynasty and Richard D. McBride II's work on Buddhist paintings of Amitābha Buddha during the Goryeo dynasty. In doing so, students will develop interdisciplinary perspectives and research skills.</p> |
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ASIA 345 (3) Chinese Film Classics

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| <p>Category: 1 Faculty: Arts Department: Asian Studies Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: September 13th, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>ASIA 345 (3) Chinese Film Classics</p> <p>Introduction to and analysis of artistically significant films made in mainland China during the first half century of Chinese film history.</p> | <p>URL:</p> <p>Present Calendar Entry: None</p> <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: The Department of Asian Studies has seen a growing demand for cinema studies. Every year, 300-400 students take Chinese cinema courses with growing demand. <i>ASIA 345 Chinese Film Classics</i> will differ from existing Chinese cinema courses in its scope (early 20th century) and in approach, focusing on individual films and on standards of evaluating artistic quality. Existing Chinese cinema courses, namely ASIA 355: History of Chinese Cinema, ASIA 375: Global Chinese Cinemas, ASIA</p> |

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| | 325: Hong Kong Cinema, and ASIA 363: Fiction and Film from Modern Taiwan, focus on historical or international industry trends, or on specific locales regions as Hong Kong or Taiwan. |
| <i>ASIA 407 (3) North Korea in Historical Context</i> | |
| Category: (1) Faculty: Arts Department: Asian Studies Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018-19 | Date: Sep 13, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ASIA 407 (3) North Korea in Historical Context Analytical overview of North Korea's politics, society, and economy. Prerequisites: Restricted to fourth-year students. 9 credits of 300-level ASIA coursework recommended. | URL: Present Calendar Entry: Type of Action: New course Rationale for Proposed Change: This 400-level course answers questions arising from contemporary media and policy coverage of North Korea through an examination of the country's history. This will provide students with sufficient knowledge and skills to critically engage with various sources of information and claims that emanate from North Korea itself and are endlessly produced and reproduced by academic, policy, and media discourse. There are currently no undergraduate or graduate courses at UBC focused on North Korea or its history. This course could be effectively combined with ASIA 337 (The Korean People in Modern Times), ASIA367 (Contemporary Korean Culture) for comparison and contrast with South Korea's modern history. The course would also have appeal to students from other departments and programs in the university, such as those in History, Political Science, International Relations, Sociology, and Anthropology. Lectures, in-class discussions, readings, and film viewings will encourage students |

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| | to continually ask what they know about North Korea and from where the information comes, how reliable such information is, and what assumptions and agendas animate these various sources. In addition to assigned academic readings, examples from media reports, policy papers, North Korean propaganda, and popular South Korean representations of North Koreans will be included to stimulate comparisons and contrasts and critical approaches to a broad range of information. |
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AVHA: Art History and Visual Art***ARTH 381 (3) Artist: Histories and Subjectivities***

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| Category: (1) Faculty: Arts Department: AHVA Faculty Approval Date: Nov 30, 2017 Effective Session (W): W Effective Academic Year: 2018-19 | Date: November 6, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ARTH 381 (3) The Artist in the World Critical approach to the figure of the artist in art, film and texts, from the Early Modern period to the present. | Present Calendar Entry: Type of Action: New course. Rationale for Proposed Change: The figure of the artist is the primary creator in the history of art. This course meets the need for an undergraduate course oriented towards a critical approach to the artist in history, theory and visual representation. |

ENGL: English Department***ENGL 334 (3-6) d Literature and the Archive***

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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Acknowledged: April 19, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca ; |
| Proposed Calendar Entry: ENGL 334 (3-6) d Literature and the | Present Calendar Entry: N/A |

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| <p>Archive</p> <p>Analysis of a range of archival materials. Addresses broader considerations of how the archive as a cultural institution informs the production and interpretation of literature.</p> <p><i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.</p> | <p>Type of Action: New course</p> <p>Rationale for Proposed Change: This course, Literature and the Archive, contributes to this curriculum revision by allowing students to undertake primary research in archives, libraries and museums for the purposes of enriching the interpretation of literary works and understanding textual production and literary history more fully. Situating itself at the intersection of the material and the literary, the course invites students to consider culturally constructed distinctions between the literary and the paraliterary. Students will directly engage with primary archival sources such as manuscripts, letters, rare printed books, and authors' records that are part of a literary archive. Alternatively, they may directly explore the archived records and collections of material objects that authors use to inform their literary works. Depending on the instructor, the course may also explore broader questions about how issues of authority, authenticity, and cultural memory structure the formation of archives and the collection of archival materials, or the theory of the archive, as this relates to literary production and literary history.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English scholarship. They respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and cultural literacy.</p> |
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ENGL 335 (3-6) d Digital Humanities

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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018-19 | Acknowledged: March 20, 2017 Contact Person: Lois Nightingale Email: Lois.Nightingale@ubc.ca ; |
| Proposed Calendar Entry: ENGL 335 (3-6) d Digital Humanities Tools, methods, and theories of digital humanities as used in English scholarship. Research methods and data gathering tools, the interpretation of data, and the digital visualization of argumentation. <i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses. | Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: Digital Humanities contributes to this curriculum revision by reflecting perhaps the most influential recent development in English scholarship. Digital Humanities will equip the department to adapt to the ongoing digital transformation of English scholarship. With the increasing integration of computing with all scholarly activities, the current lack of an English-based digital humanities course makes the addition of Digital Humanities both timely and necessary. Moreover, given its focus on the analysis and creation of digital visualizations, Digital Humanities is expected to have a broad appeal among English students, as well as the English faculty. This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English scholarship. They respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and cultural literacy. |
| ENGL 336 (3-6) d Print Culture and Media Studies | |
| Category: (1) Faculty: Arts Department: English | Acknowledged: April 19, 2017 Contact Person: Lois Nightingale |

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| Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018-19 | Email: Arts.Curriculum@ubc.ca ; |
| <p>Proposed Calendar Entry: ENGL 336 (3-6) d Print Culture and Media Studies</p> <p>Relationships between literature, print culture, and media.</p> <p><i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.</p> | <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change: This course, Print Culture and Media Studies, contributes to this curriculum revision by offering students opportunities to explore relationships between literature and media. It presumes that when the mediation of literary texts is explored (i.e. the material and technological aspects of their mediation, as well as their production, dissemination, and reception), these texts “mean” differently. Depending on the instructor, the course could be about periodical studies; the culture of reviewing; manuscript culture; authorship; “Grubb Street”; advocacy journals; literary value; serialization, etc. This course will both contribute to the English Major and Honours training and offer a relevant elective for Media Studies students.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English scholarship. They respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and cultural literacy.</p> |

ENGL 337 (3-6) d Text and Image

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| <p>Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Acknowledged: April 19, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry: ENGL 337 (3-6) d Text and Image</p> <p>Relationship between texts and images, or the aspect of text as image, in literary and non-literary works and of various genres, periods, and media.</p> <p><i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.</p> | <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: This course, Text and Image, contributes to this curriculum revision by offering students the opportunity to evaluate the relationship between texts and images, or the aspect of text as image, in literary and non-literary works. Situating itself at the intersection of the literary, the rhetorical and the visual, the course allows for considerations of the material interplay between text and image in works of various genres and periods, including medieval, romantic, modern, postmodern and contemporary. Depending on the individual instructor, the course might examine the use of visual images in literary works (drawings, diagrams, maps, photographs or cartoons). Alternatively, individual sections might examine the historicity and materiality of text as image in diverse media (manuscripts, small press editions, the Internet, or multimedia art installations) or genres that involve interplay between text and image, such as graphic novels or concrete poetry. The course will contribute to the English Major and Honours by allowing for the study of the visual aspect of literary creativity, and intersection between literary and visual cultures. It will offer a relevant elective for English majors who are interested in print culture, contemporary multimodal culture and media history, and for those who have post-graduate professional aspirations in the fields of creative writing, publishing, or library and archival science.</p> |

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| | <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes;; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy.</p> |
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ENGL 338 (3-6) d Literature and Science

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| <p>Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Acknowledged: April 19, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry: ENGL 338 (3-6) d Literature and Science</p> <p>Relations between science and literature; the representation of science; and science writing in its literary, historical, and cultural contexts. Science as literature, science in literature, science fiction, and models of knowledge in science and literature.</p> <p>Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses.</p> | <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: This course, Literature and Science, contributes to this curriculum revision by offering a course in the rapidly expanding field of literature and science. Grounded in the view that the knowledge that science produces is not independent of its cultural contexts, this course will examine the literary, social, political, and intellectual contexts of science together with its representation in literary works. The course will consider the relationship between literature and science, asking whether influences are multidirectional: if scientific ideas are incorporated into the literature, is science also shaped by literary narratives?</p> <p>This course forms part of an extensive revision by the Department of English to its</p> |

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| | undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes;; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy. |
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ENGL 339 (3-6) d Trauma and Memory: Literature, Performance and Theory

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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Acknowledged: March 20, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca; |
| Proposed Calendar Entry: ENGL 339 (3-6) d Trauma and Memory: Literature, Performance and Theory Interdisciplinary explorations of trauma and memory in literature, performance, and theory. Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing and 3 credits of first-year English or equivalent (WRDS 150, ASTU 100, ASTU 150, ARTS 001) or permission of instructor. Recommended: 6 credits of 100- and/or 200-level English and/or writing classes) | Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: This course, Trauma and Memory , contributes to this curriculum revision by highlighting the significant issues of trauma and memory in literature and performance from a wide range of genres, nations, and periods. Trauma studies and memory studies are flourishing areas of transdisciplinary research that enrich interpretive practices and theoretical perspectives in literary studies. This course dedicated to the compelling concerns of trauma and memory thus affords another avenue through which to diversify the approaches, texts, and topics taught in the Department of English. This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course |

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| | offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy. |
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ENGL 360 (3-6) d Early Canadian Writing

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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018-19 | Acknowledged: March 20, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ENGL 360 (3-6) d Early Canadian Writing Pre-Confederation colonial literature from its emergence until the end of World War 1. Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses. | Present Calendar Entry: n/a Type of Action: New course Rationale for Proposed Change: Early Canadian Writing (ENGL 360) contributes to this curriculum revision by offering a course that reads 18th and 19th – century prose and poetry that participated in the processes of making the spaces, subjectivities, legal and social logics and governmentality linked with the project of Canada. This course will situate Canada in a trans-Atlantic and continental space as a means of understanding ways that the idea of empire, with its notions of progress, civility, manners, and racial, sexual, gender difference and propriety, circulated and constituted the making of the nation. This course forms part of an extensive revision by the Department of English to its |

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| | undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy. |
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ENGL 370 (3-6) d Literatures and Cultures of Africa and the Middle East

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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date Acknowledged: 2017 Mar 02 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca |
| Proposed Calendar Entry: ENGL 370 (3-6) d Literatures and Cultures of Africa and/or the Middle East Literary and cultural works from Africa; some sections include Africa and the Middle East. Multiple perspectives on local, national, and global issues including colonialism, migration, transnationalism, education, art and politics. May include fiction, poetry, drama, digital media, and other forms. Prerequisite: (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing and 3 credits of first-year English or equivalent (WRDS 150, ASTU 100, ASTU 150, ARTS 001) or permission of instructor. Recommended: 6 credits of 100- and/or 200-level English and/or writing classes) | Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This course, Literatures and Cultures of Africa and/or the Middle East , contributes to this curriculum revision by introducing students to previously under-represented cultural, social, and historical contexts. Literary and theoretical readings will emphasize transnational and comparative approaches. Emphasizing the geographical reach of this literature is vital in the education of our students as global citizens. It also opens them to a wealth of beautiful and important contemporary writing. The course will be of interest for students in English, African Studies, Geography, CENES, FNIS, History, Theatre and Film, Sociology, Anthropology, Philosophy, and Economics. This new course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings |

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| | reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy. |
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ENGL 379 (3-6) d Migrations, Movements, and Transnational Networks


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| Category: (1) Faculty: Arts Department: English Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Acknowledged: March 3, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ENGL 379 (3-6) d Migrations, Movements, and Transnational Networks in Literary and Cultural Production Writing related to transnationality and migration; forced and voluntary movements of people, denationalization or citizenship, diasporic and differential legal identities, cultural flows, borderlands and contact zones, new cosmopolitanisms, creoles and translations. <i>Prerequisite:</i> (Pre-requisites must be met by the first day of class or students will be withdrawn). Third-year standing; and 3 credits of 100- and/or 200-level English or one of WRDS 150 or 350; ASTU 100 or 101; ARTS 001. Recommended: 6 credits of 100- and/or 200-level English and/or writing courses. | Type of Action: New course Rationale for Proposed Change: ENGL 379 explores the literatures, framing ideations, and new research around the nation-state. Topics include citizenship; movements (whether forced or voluntary) of migrant, exilic, and diasporic groups and communities; transformational cultural exchanges and flows; globalization and other forms of transnational adherence such as cosmopolitanism, internationalism or denationalization. New theoretical approaches and scholar-activist challenges to issues of migration, identity, and citizenship have profoundly altered the way disciplines in languages and literatures are expanding and reforming their canons, understanding the stakes of scholarship, and transacting with their objects of study. Transnational formations put traditional forms of citizenship, legal exclusions or limited inclusions, and global circulations of goods, media, and mobile workforces under question; literatures |

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| | <p>around diasporic identities put evaluative pressure on national imaginaries, racial and gender formations, political and economic systems, capitalist transformations of formerly autonomous or peripheral territories, and cultural legacies of colonialism and imperialism. Writing between or beyond borders produces new ideas and implications for cultural transactions, ethical debates, political actions, and global policy-making among many kinds of actors, notably between nation-states and people and communities in movement.</p> <p>ENGL 379: Migrations and Transnational Networks provides important context for studies in world and glocal (i.e. global and local) literatures; working outside specified geographies and eras provides pedagogical opportunities to explore alternative, non-national territories (such as oceanic space and borderlands), as well as multiple possible histories and periodizations. The course will be of interest to students in English, Asian Studies, Geography, CENES, FNIS, History, Theatre and Film, Sociology, Anthropology, Philosophy, and Economics.</p> <p>This course forms part of an extensive revision by the Department of English to its undergraduate curriculum. New course offerings reflect current developments in the discipline of English Literary Studies; they respond vigorously to faculty teaching interests, allowing the development of new curricular approaches with enough flexibility to accommodate the ongoing transformation of our strategy for achieving the pedagogical goals articulated in our departmental learning outcomes; and they articulate relevance to student needs, preparing learners to engage the contemporary world with critical acuity and robust cultural literacy.</p> |
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GEOG: Geography***GEOG 313 (3) Environmental Justice and Social Change***

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| Category: (1) Faculty: Arts Department: Geography Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 8, 2017 Contact Person: Lois Nightingale for Jessica Dempsey Email: Arts.Curriculum@ubc.ca |
| Proposed Calendar Entry: GEOG 313 (3) Environmental Justice and Social Change Economic, social, political and cultural structures and institutions that shape contemporary socioecological challenges. <i>Pre-requisites:</i> GEOG 121 | URL: "GEOG" Present Calendar Entry: Type of Action: create new course Rationale: The Geography Department is undergoing a revision of its Environment and Sustainability curriculum in order to better respond to contemporary issues and student needs. This proposed new class, Geography 313, is one of two new required classes for the program at the third year level that will replace Geography 310, which is currently the core third year required course (Geography 310 will continue to be offered as a service and third year course one time per year, it is currently offered three times). Geography 313 class centers questions about and action towards environmental justice, which is currently lacking in the program and is an emphasis in the revised Environment and Sustainability curriculum document. The course will have enrollment of 200 students, a mix of lectures and bi-weekly discussion groups.  Not available for Cr/D/F grading Rationale for not being available for Cr/D/F: This course has extensive group work which scaffolds onto the next project. |

GEOG 314 (3) Analysing Environmental Problems

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| Category: (1) Faculty: Arts Department: Geography Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W | Date: Oct 8, 2017 Contact Person: Lois Nightingale for Simon Donner Email: Arts.Curriculum@ubc.ca ; |
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| Effective Academic Year: 2018 | |
| <p>Proposed Calendar Entry:</p> <p>GEOG 314 (3) Analysing Environmental Problems</p> <p>Concepts and techniques employed in environmental research; challenges in the areas of climate change, water use, knowledge translation and natural hazards.</p> <p><i>Pre-requisites:</i> Two of GEOG 211, GEOB102, GEOB103</p> | <p>Present Calendar Entry:</p> <p>Action: Create new course.</p> <p>Rationale: This problem-based learning course for Environment and Sustainability (Geography) majors introduces students to key concepts and techniques employed in environmental research. Students will develop a core set of qualitative and quantitative research and analytical skills through four modules focused on present-day challenges in the areas of climate change mitigation, water use, knowledge translation, and hazard assessment. Through lectures, in-class activities and assignments, students will gain exposure to the relationships between data, information, knowledge and action in the environmental space.</p> <p> Not available for Cr/D/F grading.</p> <p>Rationale for not being available for Cr/D/F):</p> <p>The course involved group work that is problematic for Cr/D/F grading.</p> |

POLI: Political Science***POLI 379 (3/6) d China in World Politics***

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| <p>Category: (1) Faculty: Arts</p> <p>Department: Political Science</p> <p>Faculty Approval Date:</p> <p>Effective Session (W or S): W</p> <p>Effective Academic Year: 2018</p> | <p>Date: September 28, 2017</p> <p>Contact Person: Lois Nightingale for Allen Sens</p> <p>Email: Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>POLI 379 (3/6) d China in World Politics</p> <p>Impact and implications of the rise of China in historical and contemporary perspective.</p> <p><i>Prerequisites:</i> Third year standing.</p> <p>Previous coursework on international</p> | <p>URL: "POLI"</p> <p>Present Calendar Entry:</p> <p>Type of Action:</p> <p>New Course</p> <p>Rationale for Proposed Change:</p> |

THE UNIVERSITY OF BRITISH COLUMBIA

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| <p>relations or POLI 321 are recommended.</p> | <p>The Department of Political Science currently has no dedicated course for the teaching of China in the world or Chinese foreign policy. Given the importance of China in world politics, the location of UBCV and UBCO on the Pacific Rim, and the significance of Chinese diaspora, academics, students, and related programs at UBC, this is a serious omission we wish to correct.</p> <p>This course has been taught as a pilot recently by a new permanent faculty member in the department using our POLI 362 “Topics” number. We now wish to assign a number and title to the course to highlight its presence in our curriculum.</p> <p>The course has been very popular and is expected to serve the interests of POLI Majors and IR Majors, as well as students in Economics, History, Asian Studies. The course will be a complement to our existing POLI 321 (Chinese Politics and Development), which is focussed on domestic Chinese politics.</p> |
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POLI 424 (3/6) d Ethics in Democratic Politics

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| <p>Category: (1) Faculty: Arts Department: Political Science Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: Sep 27, 2017 Contact Person: Allen Sens and Lois Nightingale Email: asens@mail.ubc.ca; Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>POLI 424 (3/6) d Ethics in Democratic Politics</p> <p>Ethics in politics, including citizenship and public service, and practices demanded by the institutions of democracy. <i>Prerequisites: Third year standing</i></p> | <p>URL: “POLI”</p> <p>Present Calendar Entry:</p> <p>Type of Action: New Course</p> <p>Rationale for Proposed Change:</p> <p>This course has been taught as a pilot by a full professor under our POLI 449 (Topics</p> |

THE UNIVERSITY OF BRITISH COLUMBIA

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| | <p>In Political Theory) course shell. The Department wishes to create new course numbers and titles for courses taught under “Issues” or “Topics” course shells that we expect to continue to offer on a regular basis. Doing so will more accurately present our course offerings to students and more accurately reflect on student transcripts the subject matter our students have completed.</p> <p>The subject of ethics in democratic politics has become increasingly important in the study of Political Science, and adding a course on this subject to our undergraduate curriculum recognizes this development and meets growing student demand for courses on the subject. The course will be an elective course and will satisfy the Arts degree research requirement. The course will continue to be taught by the full professor into the foreseeable future.</p> |
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THE UNIVERSITY OF BRITISH COLUMBIA

ACAM: Asian Canadian Asian Migration***ACAM 250 (3) Asian Canadians in Popular Culture***

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| Category: (1) Faculty: Arts Department: Asian Canadian and Asian Migration Studies program Faculty Approval Date: Dec 14, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 26, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: ACAM 250 (3) Asian Canadians in Popular Culture Popular culture's role in the production of Asian Canadian and diasporic communities, with emphasis on race, gender, sexuality, and other identity categories. | URL: "ACAM" Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: To create a 200-level survey course for first and second year students to engage in the broader field of Asian Canadian and Asian migration studies through popular culture. There is currently no course for lower division students that introduces key concepts and methodologies in Asian Canadian and Asian Migration Studies. The proposed course would therefore serve as a gateway for students to take more advanced courses and conduct research in the field. Students will learn to think critically about questions of race and representation by examining popular cultural texts such as films, TV programs, photographs, and newspaper articles. |

GRSJ: Gender, Race, Sexuality and Social Justice***GRSJ 315 (3) Critical Racial Theories***

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| Category: (1) Faculty: Arts Department: Inst. For Gender, Race, Sexuality and Social Justice Faculty Approval Date: Dec 14, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 13, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: GRSJ 315 (3) Critical Racial Theories | Type of Action: New Courses Rationale for Proposed Change: |

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| <p>Critical theories of racial and cultural difference. Initial formulations of theses against “scientific racism” and their later transformation by historical, social, and global-historical accounts of racial subjugation.</p> | <p>Presently GRSJ’s undergraduate and graduate curricula do not include course subject and content that cover the range of critical racial theories which have been developed in the past one hundred years or so.</p> <p>The content is a response to expressions of interest over time from undergraduate students, especially racialized and First Nations students, and addresses the 2012 External Review recommendation that critical racial studies should be a growth area within GRSJ.</p> |
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GRSJ 316 (3) Queer and Trans of Colour Theorizing

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| <p>Category: (1) Faculty: Arts Department: Inst. For Gender, Race, Sexuality and Social Justice Faculty Approval Date: Dec 14, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: October 13, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca;</p> |
| <p>Proposed Calendar Entry:</p> <p>GRSJ 316 (3) Queer and Trans of Colour Theorizing</p> <p>The intellectual and political interventions of queer of colour theorizing in the gender and sexual politics of racial and imperial projects, including its engagements with women of colour feminisms, settler colonial and indigenous studies, and immigration and diaspora studies.</p> | <p>Type of Action: New Courses</p> <p>Rationale for Proposed Change:</p> <p>Presently, GRSJ’s undergraduate and graduate curricula do not include a course subject and content that covers the theoretical contributions of queer of colour theorists. This is so because until 2016, the unit did not have a faculty member or sessional instructors trained in this area of scholarship. This course will also complement CSIS’s curriculum, which at this point also does not include a course on queer of colour theorizing.</p> |

GRSJ 415 (3) Critical Racial and Anti-Colonial Feminist Approaches

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| <p>Category: (1) Faculty: Arts Department: Inst. For Gender, Race, Sexuality and Social Justice Faculty Approval Date: Dec 14, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: October 13, 2017 Contact Person: Lois Nightingale Email: Arts.Curriculum@ubc.ca;</p> |
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THE UNIVERSITY OF BRITISH COLUMBIA

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| <p>Proposed Calendar Entry:</p> <p>GRSJ 415 (3) Critical Racial and Anti-Colonial Feminist Approaches</p> <p>Critical anti-colonial and feminist analyses of colonial and racial subjugation, as well as the many modalities of indigenous and minority resistance.</p> | <p>Type of Action: New Courses</p> <p>Rationale for Proposed Change:</p> <p>Presently, GRSJ's undergraduate curriculum does not include a course subject and content that covers theoretical feminist interventions in the areas of critical racial studies and anticolonial studies. GRSJ 415 will complement existing thematic and methods courses such as GRSJ 320 (Anti-Racist Feminist Pedagogies), GRSj 327 (Feminist Theories of Representation and Difference), GRSJ 328 (Feminist Theories of subjectivity), GRSJ 325 (Anti-Colonial and Feminist Qualitative Methods). Furthermore, as an advanced theory course, it focuses on the specific theoretical contributions of indigenous and feminist of colour feminisms.</p> |
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ECON: Vancouver School of Economics***VSE>BIE>Academic Regulations Page***

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| Category: 1 Faculty: Arts Department: Arts Academic Advising Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2017 | Date: October 16, 2017 Contact Person: Nancy Campbell cc: Lois Nightingale Email: nancy.campbell@ubc.ca |
| <p>Calendar Navigation: Faculties, Colleges, and Schools > The Vancouver School of Economics > Bachelor of International Economics > Academic Regulations</p> <p>Proposed Calendar Entry: Academic Regulations</p> <p>Students are subject to the academic regulations of the Faculty of Arts.</p> <p>Dean's List</p> <p>Dean's List designation recognizes exceptional academic achievement in the Faculty of Arts.</p> <p>Students who complete at least 27 percentage-graded credits in a Winter Session, and who achieve an average of 85% or higher on at least 27 of these credits, will receive the notation "Dean's List" on their permanent record.</p> <p>Students in the Arts Co-operative Education program who complete a Co-operative work placement in either Term of a Winter Session and at least 15 percentage-graded credits in the other Term, and who achieve an average of 85% or higher on at least 15 of these credits, will receive the notation "Dean's List" on their permanent record.</p> <p>Scholarships and Awards</p> <p>For information on scholarships and awards available to academically</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,304,932,1508</p> <p>Present Calendar Entry: Academic Regulations</p> <p>Students are subject to the academic regulations of the Faculty of Arts with the exception of the continuation requirements below.</p> |

outstanding students, see [Awards, scholarships and bursaries](#). See also [Fees, Financial Assistance, and Scholarships](#).

Class Standing at Graduation

Graduation Class Standing appears on the transcript, and is awarded based on grades earned for at least 51 upper-level credits. These must include all upper-level Core credits and upper-level credits used to satisfy degree and specialization requirements, and may include the best upper-level elective credits, as necessary, to reach a minimum of 51 credits. Using this calculation, students who achieve an average of 80% or higher receive Class 1 standing. Those with an average between 65% and 79.9% receive Class 2 standing, and those with an average of 64.9% or lower receive Class P (Pass) standing. B.I.E. students who achieve a Core average of 90% or higher, calculated on all attempted upper-level Core credits, will also receive With Honours standing, appearing on the transcript as Class 1 With Honours.

Promotion Requirements

In order to progress from one year-level standing to the next, a student must successfully complete a sufficient total number of B.I.E.-eligible credits. These may include transfer credit as well as credit earned through exchange. Year-level standing impacts a student's eligibility for specializations and courses, and is one of the factors considered when registration dates are set.

Promotion is evaluated annually upon completion of the Winter Session. Students who have successfully completed 27 credits are promoted to

second year standing. Those who have completed 54 credits are promoted to third year standing, and those who have completed 84 credits are promoted to fourth year standing.

Continuation Requirements

[...]

Continuation Requirements

[...]

Type of Action: Add Dean's List, Scholarships and Awards, Class Standing at Graduation, and Promotion Requirements information to BIE Calendar section. Remove extended reference to Faculty of Arts academic regulations.

Rationale: These sections were omitted in error when the Bachelor of International Economics was created. Dean's List, Scholarships and Awards and Promotion Requirements are identical in content to those in other Faculty of Arts degree programs. Class Standing at Graduation is identical in all except the additional provision for BIE students to be awarded "With Honours" standing, in addition to Class 1 standing, if their Core average, calculated on all attempted Core courses, is 90% or higher.

Students in the BIE program do not have the option of enrolling in an Honours degree. Several of the most prestigious graduate programs in the world require an Honours designation to be considered for admission. An otherwise exceptional student in the first graduating cohort has already been denied admission to an elite graduate program for this reason. Introducing a "With Honours" class standing for the very top performers in the BIE program would more clearly signal the quality of their academic achievement to outside evaluators. It is noted that the 90% Core average proposed requirement is a very high threshold, which only between

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| | <p>2% and 5% of students in each cohort are expected to achieve.</p> <p>The Faculty of Arts Academic Regulations, linked here, no longer include reference to Continuation Requirements, but instead refer only to attendance and email communication. Both of these areas apply equally to BIE students.</p> |
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UBC Curriculum Proposal Form Change to Course or Program

Category: 1

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| <p>Faculty: COMM</p> <p>Department:</p> <p>Faculty Approval Date: 2017 Dec 8</p> <p>Effective Session (W or S): Winter</p> <p>Effective Academic Year: 2018</p> | <p>Date: February 27, 2017</p> <p>Contact Person: Pam Lim</p> <p>Phone: 2-9216</p> <p>Email: pam.lim@sauder.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>UBC Bachelor of Commerce Dual Degrees with Sciences Po Program Option</p> <p>[Note: This program is no longer accepting new students. The final cohort of students was accepted to begin studies at Sciences Po in 2017W, and they are expected to complete their fourth year of study, at UBC, at the end of the 2020W session (i.e., spring of 2021). This change does not affect the UBC Arts Dual Degree with Sciences Po Program. The following information remains in place for students already enrolled in the program.]</p> <p>This distinctive program option offers qualified students the opportunity to earn, in one course of study, a Bachelor of Commerce degree from UBC and a Bachelor of Arts degree from <u>Sciences Po</u> (L'Institut d'études politiques de Paris). Equivalent in number of credits to five years of study, this program option is earned in four years through intensive study and scheduling.</p> <p>Students in the Dual Degrees program option take their first two years of study in France at one of the Sciences Po regional campuses and their third and fourth years of study at UBC's Vancouver Campus. At the conclusion of their studies students will earn both a Sciences Po Bachelor of Arts and a UBC Bachelor of Commerce.</p> <p>Individuals interested in pursuing this program option must apply for admission to the UBC Bachelor of Commerce, and where prompted, select the Dual Degrees with Sciences Po option. Acceptance into the program option will be determined by a Sciences Po–Sauder School Dual</p> | <p>URL:</p> <p>http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,199,295,1519</p> <p>Present Calendar Entry:</p> <p>UBC Bachelor of Commerce Dual Degrees with Sciences Po Program Option</p> <p>This program option is pending final approval by the UBC Council of Senates.</p> <p>This distinctive program option offers qualified students the opportunity to earn, in one course of study, a Bachelor of Commerce degree from UBC and a Bachelor of Arts degree from <u>Sciences Po</u> (L'Institut d'études politiques de Paris). Equivalent in number of credits to five years of study, this program option is earned in four years through intensive study and scheduling.</p> <p>Students in the Dual Degrees program option take their first two years of study in France at one of the Sciences Po regional campuses and their third and fourth years of study at UBC's Vancouver Campus. At the conclusion of their studies students will earn both a Sciences Po Bachelor of Arts and a UBC Bachelor of Commerce.</p> <p>Individuals interested in pursuing this program option must apply for admission to the UBC Bachelor of Commerce, and where prompted, select the Dual Degrees with Sciences Po option.</p> |

Degrees Admissions Committee. Applicants to the program option must meet the approved admission requirements in place at each institution and program including evidence of academic achievement and intellectual readiness. An interview may be required. The Dual Degrees program option is not open to students with a previous degree. Fluency in French is not required.

Successful students are admitted simultaneously to the UBC Bachelor of Commerce and the Sciences Po Bachelor of Arts.

Applicants who are unsuccessful in their admission to the Dual Degrees program option will automatically be considered for admission to the UBC Bachelor of Commerce degree program. For consideration to the Sciences Po B.A. program (and not UBC), please contact Sciences Po directly. For more information please see the [Dual Degrees program option website](#).

Degree Requirements

In order to receive both degrees students must ensure the individual program requirements for each institution's specific degree are fulfilled. Each institution manages its own degree requirements.

For the UBC Bachelor of Commerce Dual Degrees with Sciences Po program option students are required to complete a minimum of 151 to 154 credits. These credits comprise two years of coursework [180 ECTS equivalent to 90 UBC credits] completed at Sciences Po and 61 to 64 credits of coursework (depending on the option) administered by UBC.

The 61 to 64 credits administered by UBC include the credits required by the B.Com. core and the credits specified by the program option. To view the complete set of requirements of the UBC Bachelor of Commerce Dual Degrees program option with Sciences Po Bachelor of Arts, please refer to the [Dual Degrees program option website](#).

Students in the Dual Degrees program option will be registered students at both Sciences Po and UBC simultaneously and must fulfill the applicable registration and tuition requirements throughout their program.

Students must meet each institution's continuation requirements. However, only those credits administered by the specific institution will apply towards that institution's continuation policies.

Acceptance into the program option will be determined by a Sciences Po–Sauder School Dual Degrees Admissions Committee. Applicants to the program option must meet the approved admission requirements in place at each institution and program including evidence of academic achievement and intellectual readiness. An interview may be required. The Dual Degrees program option is not open to students with a previous degree. Fluency in French is not required.

Successful students are admitted simultaneously to the UBC Bachelor of Commerce and the Sciences Po Bachelor of Arts.

Applicants who are unsuccessful in their admission to the Dual Degrees program option will automatically be considered for admission to the UBC Bachelor of Commerce degree program. For consideration to the Sciences Po B.A. program (and not UBC), please contact Sciences Po directly. For more information please see the [Dual Degrees program option website](#).

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The 61 to 64 credits administered by UBC include the credits required by the B.Com. core and the credits specified by the program option. To view the complete set of requirements of the UBC Bachelor of Commerce Dual Degrees program option with Sciences Po Bachelor of Arts, please refer to the [Dual Degrees program option website](#).

Students in the Dual Degrees program option will be registered students at both Sciences Po and UBC simultaneously and must fulfill the applicable registration and tuition requirements throughout their program.

Students must meet each institution's continuation requirements. However, only those credits administered by the specific institution will apply

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| <p>Graduation</p> <p>Students will graduate from each institution only when the program requirements from both programs are completed. Students may attend the convocation ceremonies of each institution. The student will receive two parchments:</p> <ol style="list-style-type: none"> 1. UBC, Bachelor of Commerce; and, 2. Sciences Po, Bachelor of Arts <p>For further information on the Dual Degrees program option, including information on applying, please see the <u>Dual Degrees program option website</u>.</p> | <p>towards that institution's continuation policies.</p> <p>Graduation</p> <p>Students will graduate from each institution only when the program requirements from both programs are completed. Students may attend the convocation ceremonies of each institution. The student will receive two parchments:</p> <ol style="list-style-type: none"> 3. UBC, Bachelor of Commerce; and, 4. Sciences Po, Bachelor of Arts <p>For further information on the Dual Degrees program option, including information on applying, please see the <u>Dual Degrees program option website</u>.</p> <p>Type of Action: Insert note to indicate discontinuation of program.</p> <p>Rationale for Proposed Change: This program will no longer accept new students as of 2018W; the last cohort was accepted for 2017W.</p> |
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UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| <p>Faculty: Sauder School of Business Department: Faculty Approval Date: 2017 Dec 8 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: October 5th, 2017 Contact Person: Kin lo Phone: 2-8430 Email: kin.lo@sauder.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>COEC 294 (3) Managerial Accounting</p> <p>Introduction to the development and use of accounting information for management planning and control and the development of cost information for financial reports.</p> <p>Credit will be granted for only one of COEC 294 or COMM 294. This course is not eligible for Credit/D/Fail grading.</p> <p>Prerequisite: COEC 293 or COMM293.</p> <p>Equivalency: COMM 294</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: In order to keep the BIE Program current and diverse to student and market demand, the addition of COEC 294 Managerial Accounting to the BIE Program curriculum option has been proposed and agreed upon between the Vancouver School of Economics and the Sauder School of Business. COEC 294 is created on the basis of COMM 294 Managerial Accounting and to be taught to the BIE students.</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only)</p> <p>Rationale for not being available for Cr/D/F: Course is restricted to students in the BIE for whom it is a core requirement.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading</p> |
| | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=COMM</p> |

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| <p>Proposed Calendar Entry: COMM 294 (3) Managerial Accounting Introduction to the development and use of accounting information for management planning and control and the development of cost information for financial reports. Credit will be granted for only one of COMM 294 or COEC 294. <i>This course is not eligible for Credit/D/Fail grading.</i></p> <p><i>Prerequisite:</i> COEC 293 or COMM293.</p> <p>Equivalency: COEC 294</p> | <p>Present Calendar Entry: COMM 294 (3) Managerial Accounting Introduction to the development and use of accounting information for management planning and control and the development of cost information for financial reports. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisite:</i> COMM 293.</p> <p>Type of Action: Add credit exclusion, equivalency, and pre-requisite</p> <p>Rationale for Proposed Change: Consequential amendments to accompany creation of COEC 294.</p> |
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**UBC Curriculum Proposal Form
Change to Course or Program****Category: (1)**

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| Faculty: Forestry Department: Dean's Office Faculty Approval Date: Nov. 9, 2017 Effective Session: W Effective Academic Year: 2018 | Date: February 14, 2018 Contact Person: Rob Kozak Phone: 2-2402 Email: rob.kozak@ubc.ca |
| <p>Proposed Calendar Entry</p> <p>Dual Degree Program in Forest Sciences and Education</p> <p>This will have to be a hyperlink, which will go to another page when clicked (like the other items in the list) the following is the content of the page that it will open:</p> <p>Dual Degree in Forest Sciences and Education</p> <p>The Dual Degree program in Forestry and Education offers qualified students the opportunity to earn a B.Sc.in Forest Sciences and B.Ed. in Secondary Education (Biological Sciences Specialization), in five winter sessions with some academic requirements in some of the Summer sessions. After completing all the requirements, students are normally eligible for a British Columbia Professional Teaching Certificate.</p> <p>Admission</p> <p>Admission to the Dual Degree program requires application to the Forestry Student Services Office by the first week of February of second year with approval by April in order to undertake a teaching practicum at the end of second year.</p> <p>Application for admission can be found online on the Faculty of Forestry website or</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,203,330,0 (to be inserted as the last item of that list)</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Proposal for new dual degree program --- B.Sc. in Forest Sciences and B.Ed. in Secondary Education (Biological Sciences)</p> <p>Rationale for Proposed Change: Currently, Science (Mathematics and Physics), Land and Food Systems (Food Nutrition and Health) and the School of Kinesiology have dual degree programs with Education. The Faculty of Forestry would like to adopt a similar program with Education to prepare our students for a career in the Biological Sciences Education.</p> <p>The dual degree option will facilitate students' early entry into the B.Ed. program, allowing them to engage in the study of teacher education earlier in their academic career than occurs with post-baccalaureate entry into the education program. This will provide an opportunity for them to integrate their academic learning into a teaching context and create a frame of reference for them to apply what they are learning in subjects relating to Biological and Forest Sciences Education.</p> <p>The dual degree program also allows for a small reduction in total credits for students compared to the traditional 4+1 route. Students therefore complete their degree</p> |



at the Forestry Student Services Office. Students apply in early February of their second year and must receive approval from the Faculty of Forestry and the Faculty of Education. All students whose applications are successful will be admitted to the Faculty of Education beginning Summer Session, following Winter Session, Year 2.

Continuation will require successful completion of both year two of the Forest Sciences and the in-school practicum in Summer following second year.

Admission at any time is conditional; maintenance of good academic standing and an average of at least 65% in each session are required throughout. In addition, students must participate in volunteer or work experience with youth aged 13-18 to meet the requirements of the Bachelor of Education program. Students must satisfy all of the degree and specialization requirements for both the Bachelor of Science in Forest Sciences and the Bachelor of Education Secondary program. Some individual courses may be considered to satisfy requirements for both degrees.

Students must communicate with an advisor in the Forestry Student Services Office or the Forest Sciences Program Director and the Teacher Education Office annually after admission to the program to discuss their progress.

| First Year | |
|---|---------|
| ENGL 100-level ¹ or FRST 150 | 6 |
| BIOL 111, 121, and 140 ² | 8 |
| CHEM 121 (111) and 123 | 8 |
| MATH 100 and 101 or MATH 102 and 103 ³ | 6 |
| CONS 101 (FRST 100) | 1 (3) |
| APBI 200 | 3 |
| Total Credits | 32 (34) |
| Second Year | |
| APBI 244 (or GEOB 204) | 3 |

sooner and at lower cost.



**Not available for Cr/D/F grading
(undergraduate courses only)**

(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)

Rationale for not being available for Cr/D/F:

Cr/D/F grading is NOT available since all courses are required to satisfy the requirements for both degrees.

☐ **Pass/Fail or** ☐ **Honours/Pass/Fail grading**

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)



| | |
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| BIOL 200 | 3 |
| BIOL 201 | 3 |
| CHEM 233 and 235 | 4 |
| FRST 200 | 3 |
| FRST 201 | 3 |
| FRST 210 | 3 |
| FRST 211 | 3 |
| FRST 231 (or BIOL 300) | 3 |
| Elective ⁴ | 3 |
| Total Credits | 31 |
| Second Year (Summer) | |
| EDUC 319 | 1 |
| EDUC 440 | 3 |
| Total Credits | 4 |
| FRST 350 ^{4,5} or FRST 351 ^{5,6} immediately preceding third year | 2 |
| Third and Fourth Years | |
| EDCP 352A | 3 |
| EDST 401 | 3 |
| EPSE 308 | 3 |
| FRST 302 | 3 |
| FRST 307 | 3 |
| FRST 395 | 3 |
| FRST 399 | 3 |
| FRST 430 | 3 |
| FRST 495 or BIOL 416 | 3 |
| LLED 360 | 3 |
| Area of Concentration ⁷ | 12 |
| Forestry electives ⁸ | 12 |
| Total Credits | 54 |
| Third Year (Summer) | |
| EDUC 399 | 1 |
| LLED 361 | 3 |
| Total Credits | 4 |
| Fourth Year (Summer) | |
| EDST 403 | 1 |
| EDST 404 | 1 |
| EDUC 440 | 3 |



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| EPSE 317 | 3 |
| Total Credits | 8 |
| Fifth Year | |
| EDUC 315 | 2 |
| EDUC 421 | 12 |
| EDUC 430 | 1 |
| EDUC 450B | 3 |
| EDUC 451 | 3 |
| EDUC 452B | 3 |
| EPSE 310 | 2 |
| EPSE 311 | 1 |
| EDCP 354 | 3 |
| Total Credits | 30 |
| Minimum Credits for Dual Degree | 164 |

¹ ENGL 100 level courses: students in the dual degree should choose courses in both Literature and Composition.

² Students with Biology 12 should replace BIOL 111 with BIOL 112.

³ Students may take MATH 180, 184 (4 credits) or MATH 110 (6 credits) instead of MATH 100 or 102 (3 credits), but the credit difference cannot be applied towards program elective requirements.

⁴ PHYS 100 is suggested for students who do not have credit for Physics 12.

⁵ Credit will be given for only one of FRST 350 or FRST 351.

⁶ Students will be assigned to the most appropriate course based on their levels of forestry and field experience as determined by the course instructors.

⁷ Students will choose 12 credits from one of the groupings below for their Area of Concentration. Substitutions may be allowed at the discretion of the Director of the Forest Sciences Program.

Plant genetics/genomics/physiology:
CONS 302; FRST 311, 413, 432; APBI 318; BIOL 335, 338, 352.

Forest ecology and management:
FRST 305, 310, 320, 385, 408; APBI 401, 402.

Biodiversity conservation and management:
CONS 330, 481, 486, 495; FRST 386; APBI 416.

International forestry/sustainability:
FRST 411, 415, 439, 444; CONS 330, 425; WOOD 461.

Geomatics/mensuration:
CONS 340; FRST 232, 239, 339, 443 (or GEOB 373), 490; GEOB 370, 479.

⁸ All 300- and 400-level APBI, CONS, FRST and UFOR courses that are not specifically required for the program are eligible as Forestry electives as long as students have the necessary prerequisites.

Please note that Education courses sequence may vary where necessary in order to accommodate students' Forest Sciences schedule when needed.

**UBC Curriculum Proposal Form**
Change to Course or Program**Category: (1)**

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|---|--|
| Faculty: Forestry Department: Dean's Office Faculty Approval Date: Nov. 9, 2017 Effective Session: W Effective Academic Year: 2018 | Date: February 14, 2018 Contact Person: Rob Kozak Phone: 2-2402 Email: rob.kozak@ubc.ca |
| <p>Proposed Calendar Entry</p> <p>Dual Degree Program in Natural Resources Conservation and Education</p> <p>This will have to be a hyperlink, which will go to another page when clicked (like the other items in the list) the following is the content of the page that it will open:</p> <p>Dual Degree in Natural Resources Conservation and Education</p> <p>The Dual Degree program in Forestry and Education offers qualified students the opportunity to earn a B.Sc.in Natural Resources Conservation and B.Ed. in Secondary Education (Biological Sciences Specialization), in five winter sessions with some academic requirements in some of the Summer sessions. After completing all the requirements, students are normally eligible for a British Columbia Professional Teaching Certificate.</p> <p>Admission</p> <p>Admission to the Dual Degree program requires application to the Forestry Student Services Office by the first week of February of second year with approval by April in order to undertake a teaching practicum at the end of second year.</p> <p>Application for admission can be found online on the Faculty of Forestry website or</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,203,330,0 (to be inserted as the last item of that list)</p> <p>Present Calendar Entry:</p> <p>None</p> <p>Type of Action: Proposal for new dual degree program --- B.Sc. in Natural Resources Conservation and B.Ed. in Secondary Education (Biological Sciences)</p> <p>Rationale for Proposed Change: Currently, Science (Mathematics and Physics), Land and Food Systems (Food Nutrition and Health) and the School of Kinesiology have dual degree programs with Education. The Faculty of Forestry would like to adopt a similar program with Education to prepare our students for a career in the Biological Sciences Education.</p> <p>The dual degree option will facilitate students' early entry into the B.Ed. program, allowing them to engage in the study of teacher education earlier in their academic career than occurs with post-baccalaureate entry into the education program. This will provide an opportunity for them to integrate their academic learning into a teaching context and create a frame of reference for them to apply what they are learning in subjects relating to Biological, Conservation Biology and Environmental Sciences Education.</p> <p>The dual degree program also allows for a small reduction in total credits for students</p> |



at the Forestry Student Services Office. Students apply in early February of their second year and must receive approval from the Faculty of Forestry and the Faculty of Education. All students whose applications are successful will be admitted to the Faculty of Education beginning Summer Session, following Winter Session, Year 2. Continuation will require successful completion of both year two of the Forest Sciences and the in-school practicum in Summer following second year.

Admission at any time is conditional: maintenance of good academic standing and an average of at least 65% in each session are required throughout. In addition, students must participate in volunteer or work experience with youth aged 13-18 to meet the requirements of the Bachelor of Education program. Students must satisfy all of the degree and specialization requirements for both the Bachelor of Science in Forest Sciences and the Bachelor of Education Secondary program. Some individual courses may be considered to satisfy requirements for both degrees.

Students must communicate with an advisor in the Forestry Student Services Office or the Forest Sciences Program Director and the Teacher Education Office annually after admission to the program to discuss their progress.

| First Year | |
|--|-------|
| APBI 200 | 3 |
| ENGL 100-level ¹ or FRST 150 | 6 |
| BIOL 121 | 3 |
| CONS 101 | 1 |
| ECON 101 | 3 |
| ECON 102 | 3 |
| GEOB 103 | 3 |
| MATH 100 or 102 or 104 ² or 190 | 3 (4) |
| Elective | 3 |

compared to the traditional 4+1 route. Students therefore complete their degree sooner and at lower cost.



Not available for Cr/D/F grading (undergraduate courses only)

(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)

Rationale for not being available for Cr/D/F:

Cr/D/F grading is NOT available since all courses are required to satisfy the requirements for both degrees.

☐ **Pass/Fail or** ☐ **Honours/Pass/Fail grading**

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)



| | |
|------------------------------------|---------|
| Total Credits | 28 (29) |
| Second Year | |
| CONS 200 | 3 |
| CONS 210 | 3 |
| FRST 200 | 3 |
| FRST 201 | 3 |
| FRST 210 | 3 |
| FRST 211 | 3 |
| FRST 231 (or STAT 200 or BIOL 300) | 3 |
| FRST 232 | 3 |
| SOCI 101 or SOCI 102 | 3 |
| Total Credits | 27 |
| Second Year (Summer) | |
| EDUC 319 | 1 |
| EDUC 440 | 3 |
| Total Credits | 4 |
| Third Year | |
| CONS 330 | 3 |
| CONS 340 or GEOB 270 | 3 |
| CONS 481 | 3 |
| EDST 401 | 3 |
| FRST 318 or ECON 371 or ECON 374 | 3 |
| FRST 385 | 3 |
| FRST 386 | 3 |
| FRST 395 | 3 |
| LLED 360 | 3 |
| SOCI 360 | 3 |
| Total Credits | 30 |
| Third Year (Summer) | |
| EDUC 399 | 1 |
| LLED 361 | 3 |
| Total Credits | 4 |
| Fourth Year | |
| FRST 443 | 3 |
| FRST 495 | 3 |
| CONS 425 or CONS 440 or FRST 415 | 3 |
| CONS 451 | 15 |
| CONS 486 | 3 |



| | |
|--|-----|
| Total Credits | 27 |
| Fourth Year (Summer) | |
| EDST 403 | 1 |
| EDST 404 | 1 |
| EDCP 328 or 4XX | 3 |
| EPSE 317 | 3 |
| Total Credits | 8 |
| Fifth Year | |
| EDUC 315 | 2 |
| EDUC 421 | 12 |
| EDUC 430 | 1 |
| EDUC 450B | 3 |
| EDUC 451B | 3 |
| EDUC 452B | 3 |
| EPSE 310 | 3 |
| EPSE 311 | 1 |
| EDCP 352A | 3 |
| EDCP 354 | 3 |
| EDSE 308 | 3 |
| Total Credits | 37 |
| <i>Minimum Credits for Dual Degree</i> | 166 |

¹ENGL 100 level courses: students in the dual degree should choose courses in both Literature and Composition.

Please note that Education courses sequence may vary where necessary in order to accommodate students' Forest Sciences schedule when needed.

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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|---|---|
| Faculty: Faculty of Forestry Department: Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 11 th 2017 Contact Person: Robert Kozak Phone: 604-822-2402 Email: rob.kozak@ubc.ca |
| Proposed Calendar Entry: <i>The Faculty of Forestry</i> Contents Introduction → Admission → First Year Options Program Approval and Advising → Haida Gwaii Semesters → ... | URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,203,0,0 Present Calendar Entry: <i>The Faculty of Forestry</i> Contents Introduction → Admission → Program Approval and Advising → Haida Gwaii Semesters → ... Type of Action: Amend the FRST calendar page to include the new First Year Options Add the link to the appropriate page Rationale for Proposed Change: Because the Land One cohort option is created. There is a need to add a page about the First Year Options. |

UBC Curriculum Proposal Form Change to Course or Program

Category: (2)

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|---|---|
| Faculty: Faculty of Forestry Department: Faculty Approval Date: Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 11 th 2017 Contact Person: Robert Kozak Phone: 604-822-2402 Email: rob.kozak@ubc.ca |
| <p>Proposed Calendar Entry:</p> <p>First -Year Options</p> <p>The Faculty of Forestry offers two options for enrolment in the first year:</p> <ol style="list-style-type: none"> 1. The standard program in which students admitted to the Faculty design their own program according to Degree Requirements, selecting both the courses and the sections they wish to attend. 2. The Land One cohort option. Land One cohort option is jointly offered by the Faculty of Land and Food Systems and the Faculty of Forestry. In this limited-enrolment option, students admitted to their respective Faculty and degree programs enroll in a standard timetable of 15 core credits as a cohort. The standard timetable includes BIOL 121, MATH 102, LFS/FRST 101, LFS/FRST 110, and LFS/FRST 150. Additionally, students register for the remaining first-year credits according to their Degree Requirements. <p>Land One Cohort Option for the Faculty of Forestry</p> <p>Land One is a unique way for first-year Forestry students to begin their degrees. Students with a passion for learning in an integrated format will benefit from the</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create a new calendar page at Homepage>>Faculties, Colleges, and Schools>>The Faculty of Forestry>>First Year Options</p> <p>Rationale for Proposed Change: We need a new page to describe the first year options including the Land One cohort option.</p> |

program's cohort model, where complex issues related to food security, climate change, land use, forest management, and sustainability are explored through a coordinated curriculum offered in a small learning community. Jointly offered by the Faculty of Land and Food Systems (LFS) and the Faculty of Forestry (FRST), the option integrates required first-year subjects (BIOL 121, MATH 102, FRST 101, FRST 150 and FRST 110) within the context of real-world cases from both Indigenous and Western perspectives. The Land One cohort option especially suits to students in Bachelor of Science in Natural Resources Conservation and students in Forest Resources Management Major. It facilitates students' transition to university and enhances the connections to their home Faculty by creating a learning community centred on collaborative engagement and learning with their peers and instructors.

Students register in a 15-credit standard timetable (STT) that consists of designated sections of BIOL 121, MATH 102, FRST 101 (all taught in the first term), FRST 150 (taught in the second term) and FRST 110 (taught over both terms).

Land One instructors teach the same course content as the standard program using examples, approaches, and case studies that relate to current issues in Land and Food Systems and Forestry through lectures, tutorials, and peer-to-peer engagement. All Land One students attend their lectures together and have access to a designated study space, creating a smaller social and learning community.

FRST 110 is an integrative seminar that discusses the connections between courses in Land One and current issues. Each week, students meet for a one-hour lecture and a one-hour tutorial session throughout both terms 1 and 2. Students work in groups to explore

disciplinary and integrative approaches to cases involving both Indigenous and Western perspectives. Students also participate in field trips (e.g. to UBC farm, Malcolm Knapp Research Forest, and Museum of Anthropology) and engage in various hands-on activities.

All majors/programs in FRST allow for the Land One standard timetable to meet first-year degree requirements, however, students are responsible for meeting all remaining degree requirements in their respective program. The courses in Land One suit better to students in Bachelor of Science in Natural Resources Conservation and students in Forest Resources Management Major. The 15-credit standard timetable leaves space for students to take other courses in first-year and build their own program path within FRST, and across campus. Students who plan to transfer out of FRST after first-year should consult with the [Faculty Advising Office](#) responsible for the program they are interested in.

Application Process

The Land One program is limited to direct-entry students in their first-year of study in FRST. Students must be admitted to FRST in order to be eligible for the Land One cohort option. Students should consult the [Admission](#) section for details on applying to the Faculty of Forestry at UBC. As Land One integrates five courses, in addition to the Faculty's admission requirements, students must meet the pre-requisites of these courses as listed below (or the equivalent in the students' home curriculum):

- BIOL 121: Biology 11 or 12, or BIOL 111
- MATH 102: High-school calculus and one of (a) a grade of 80% or higher in BC Principles of Mathematics 12 or Pre-calculus 12, or (b) a satisfactory score in the UBC Mathematics Basic

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| <p>Skills Test.</p> <ul style="list-style-type: none">• FRST/LFS 101: No pre-requisites• FRST/LFS 150: Enrolment limited to FRST students with first year status and a minimum Language Proficiency Index (LPI) of 4 or equivalent. Because writing will be a significant part of the Land One option, proficiency in English is strongly recommended.• FRST/LFS 110: No pre-requisites <p>Students must submit a separate application for the Land One program, via an online application by May 31. Students are required to submit a Letter of Intent (500 word maximum) addressing why they would like to join Land One.</p> <p>Additional information about the Land One cohort option and the application process are available on the Land One website.</p> | |
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Category: (1)

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| Faculty: Faculty of Forestry Department: Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: September 27 2017 Contact Person: Sumeet Gulati Phone: (604) 822-2144 Email: sumeet.gulati@ubc.ca |
| Proposed Calendar Entry: FRST 101 (3): Principles of microeconomics for forestry and land and food systems. Principles of microeconomics and their applications in forestry and land and food systems. The basic concept of the economy to focus on private and social decision making related to the use of land—especially in agriculture, forestry, and conservation. [3-0-1] (Equivalents: LFS 101; Credit will be granted for only one of FRST 101 or ECON 101). | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=FRST Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: Although students in some LFS and FRST programs have taken ECON 101 in the past, the needs of students in the Land One cohort option would be better served by a separate course which includes relevant topics (economics of the environment) that are not in ECON 101. Examples, approaches and case studies in this course will all be specific to private and social decision-making in current issues in agriculture, forestry, and conservation. As part of the standard timetable of other courses, LFS/FRST 101 will have the additional advantage of being able to draw on and align with the content of BIOL 121 and MATH 102 as they are taught to this cohort specifically. LFS 101 and FRST 101 are cross-listed in Land One cohort option. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |

Category: (1)

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| Faculty: Faculty of Forestry Department: Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: September 27, 2017 Contact Person: Robert Kozak Phone: 604-822-2402 Email: rob.kozak@ubc.ca |
| Proposed Calendar Entry: FRST 110 (3) Land One: First-year Integrative Seminar. Current issues and cases in Forestry and Land and Food Systems are examined with a focus on integration of first-year subjects and exposure to both First Nations and Western perspectives. [1-0-1; 1-0-1] (Equivalent: LFS 110) | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=FRST Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: The proposed new course is a key feature and benefit of the Land One cohort option. It is through this course that students will be challenged to integrate first year subjects with each other and within the contexts of real-world Forestry and Land and Food Systems cases, applying both First Nations and Western perspectives. This course will also aid in students' transition to university and enhance connections to their home faculties (FRST & LFS) through creating a learning community (cohort). LFS 110 and FRST 110 are cross-listed in Land One cohort option. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |

Category: (1)

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| Faculty: Faculty of Forestry Department: Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: September 27 2017 Contact Person: Robert Kozak Phone: 604-822-2402 Email: rob.kozak@ubc.ca |
| Proposed Calendar Entry: FRST 150 (3) Scholarly Writing and Argumentation in Forestry. Communicating concepts of forestry and links to human and environmental activities through writing, elements of argumentation, evaluating evidence, and searching for and citing references to back up claims; small-class experience. (Equivalents: LFS 150). [3-0-0] | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=FRST Present Calendar Entry: N/A Type of Action: New course Rationale for Proposed Change: Although students in LFS and FRST programs have taken ENGL 112 in the past, some LFS programs have found that a separate LFS 150 course better meets the needs of students in their programs. The proposed course would be equivalent to LFS 150 and would be positioned to be more flexible to the needs of the Land One students than ENGL 112. Students learn specific communication concepts and approaches related to forestry and links to human and environmental activities, enhancing comprehension of the nature of science and key areas in forestry. The FRST code is proposed so that students in the Faculty of Forestry could register in a FRST coded course, instead of an LFS course. FRST 150 and LFS 150 are cross-listed in Land One cohort option. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is |

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| Faculty: Forestry Department: Wood Science Faculty Approval Date: November 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: November 7, 2017 Contact Person: Dr. Simon Ellis Phone: 604-822-3551 Email: simon.ellis@ubc.ca |
| Proposed Calendar Entry: WOOD 488 (3) Wood Products Design and Development I Introduction to wood products design, from the product idea to the production-ready design. [2-2-0] Prerequisites: All of WOOD 305, WOOD 482, WOOD 485. | Present Calendar Entry: n/a Type of Action: New course. Rationale: This new course addresses a desire to offer more senior elective options for students in the Wood Products Processing program (a need identified in a recent external program review). Design and fabrication courses in particular have been subject areas in which students have expressed particular interest. |
| Proposed Calendar Entry: WOOD 489 (3) Wood Products Design and Development II Design and fabrication of wood products. [2-2-0] Prerequisites: WOOD 488 and a portfolio demonstrating competence in operation of woodworking machinery. | Present Calendar Entry: n/a Type of Action: New course. Rationale: This new course addresses a desire to offer more senior elective options for students in the Wood Products Processing program (a need identified in a recent external program review). Design and fabrication courses in particular have been subject areas in which students have expressed particular interest. |

UBC Curriculum Proposal Form

Category: 1

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| <p>Faculty: Faculty of Forestry Department: Department of Forest Resources Management Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: October 16th 2017 Contact Person: Dr. Cecil Konijnendijk, Phone: 604-827-0191 Email: cecil.konijnendijk@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>UFOR 101 (3) Urban Forest Inventory and Assessment</p> <p>Overview of urban forest resources: structure and composition, extent, and ecosystem services and benefits provided; introduces methods and tools for urban forest inventory, monitoring, and assessment, and how they are integrated into the planning and management of urban forests.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: None</p> <p>Type of Action: New course</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading</p> <p>Rationale: This course provides a first, comprehensive overview of urban forest inventory and assessment, which is an essential component in urban forests planning and management. It will introduce basic concepts and skills fundamental to the learning throughout the program.</p> <p>Rationale for not being available for Cr/D/F: This course is a required course for students in the Urban Forestry Program, and as such, cannot be taken as a Cr/D/F course.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading</p> |

Category: 1

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|--|---|
| Faculty: Faculty of Forestry Department: Department of Forest Resources Management Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 16 th 2017 Contact Person: Dr. Cecil Konijnendijk, Phone: 604-827-0191 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 201 (3) Introduction to Urban Forest Design Basic concepts of landscape design as it relates to urban forestry. Pre-requisite: UFOR 100 Co-requisite: UFOR 200 | URL: N/A Present Calendar Entry: None Type of Action: New course X Not available for Cr/D/F grading Rationale: This course provides students a first exposure to landscape design and its relationship with urban forestry. Students will get learn the stages of design, from site analysis, to conceptual drawings, to design drawings, and some basic aspects of construction drawings. This course will prepare the BUF students for planning and design courses in the upper year level courses, especially the students who are interested in the minor in Landscape and Recreation Planning. Rationale for not being available for Cr/D/F: This course is a required course for students in the Urban Forestry Program, and as such, cannot be taken as a Cr/D/F course. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading |

Category: 1

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| Faculty: Faculty of Forestry Department: Department of Forest Resources Management Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 16 th 2017 Contact Person: Dr. Cecil Konijnendijk Phone: 604-827-0191 Email: cecil.konijnendijk@ubc.ca |
| Proposed Calendar Entry: UFOR 316 (3) Trees and Shrubs in Landscape Culture and identification of landscape materials with emphasis on woody plants. Elementary principles of landscape composition. Suitable for students of other faculties and departments interested in landscape materials and their uses, but priority given to Agroecology and Landscape Architecture students. Credits toward the completion of the Bachelor of Urban Forestry will be granted for only one of LARC 316 or UFOR 316 Pre-requisites: UFOR 101 and UFOR 201 | URL: N/A Present Calendar Entry: None Type of Action: New course, cross-listed with LARC 316. Rationale for Proposed Change: This course is an introduction of common plant and tree species in urban forestry and elementary principles of landscape composition. This course is intended as a cross-listed course with LARC 316 Trees and Shrubs in Landscape Architecture, which is also a required course in the BUF Program, to accommodate the growing size of the BUF Program. Students in the BUF Program will need to take one of UFOR 316 and LARC 316. X Not available for Cr/D/F grading (undergraduate courses only) Rationale for not being available for Cr/D/F: This course is a required course for students in the Urban Forestry Program, and as such, cannot be taken as a Cr/D/F course. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading |

Category: 1

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| Faculty: Forestry Department: Forest and Conservation Sciences Faculty Approval Date: Nov. 9, 2017 Effective Session (W or S): W Effective Academic Year: 2019 | Date: November 3 rd 2017 Contact Person: John Richardson Phone: 604-822-6586 Email: john.richardson@ubc.ca |
| Proposed Calendar Entry: UFOR 495 (3) Biodiversity in Urban Areas Urban centres can be designed and managed to contribute to biodiversity conservation commitments. Topics include designing human-dominated landscapes to promote biodiversity, the tools required, assessing outcomes, and the benefits and negatives of nature in the city. <i>Prerequisites:</i> One of FRST 200, BIOL 230, or with permission of the instructor. | URL: N/A Present Calendar Entry: None Type of Action: Create new course Rationale for Proposed Change: This course is intended for upper level students in the Urban Forestry program and other programs. This course provides a science-based approach to urban design to meet international commitments to Biodiversity Accords, giving students tools and examples of how humans and nature can coexist to meet our commitments. More than half the global human population lives in urban agglomerations, and many of these are located in areas that were important biodiversity areas, such as coastlines, rivers, etc. Governments have signed accords that commit us to biodiversity conservation, and we need to do this in urban centres, as well as nature reserves, since some species overlap with human distributions. We can benefit from designing urban areas to promote biodiversity and we can use these areas to benefit biodiversity conservation. In turn, biodiversity in urban areas has proven benefits in terms of pest control, pollination, enjoyment of nature, and other ecosystem services. The course will include how to design human-dominated landscapes to promote and coexist with other biodiversity. |

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| | <div><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</div> <div>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</div> <div><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</div> |
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UBC Curriculum Proposal Form Change to Course or Program

Category: 1

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|--|---|
| Faculty: Applied Science Department: Engineering Faculty Approval Date: November 2, 2017 Effective Session (W or S): W Effective Academic Year: 2017 | Date: 29 September 2017 Contact Person: Daria Hucal Phone: 604-822-4280 Email: daria.hucal@ubc.ca |
| Proposed Calendar Entry: APSC 520 (6): Co-op Work Term I Supervised, technical paid work experience with a public or private organization for a minimum of 12 weeks full-time. Co-op assignment(s) required. Restricted to graduate degree students meeting requirement(s) of the Faculty of Applied Science and the Co-operative Education program. | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=APSC Present Calendar Entry: N/A Type of Action: New Course Rationale for Proposed Change: To allow graduate students to participate in the Co-op Program. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: Courses in the Faculty of Applied Science are normally not permitted to be taken for Cr/D/F. <input checked="" type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |

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| <p>Proposed Calendar Entry:</p> <p>APSC 521 (6): Co-op Work Term II Supervised, technical paid work experience with a public or private organization for a minimum of 12 weeks full-time. Co-op assignment(s) required. Restricted to graduate degree students meeting requirement(s) of the Faculty of Applied Science and the Co-operative Education program.</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=APSC</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: To allow graduate students to participate in the Co-op Program.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: Courses in the Faculty of Applied Science are normally not permitted to be taken for Cr/D/F.</p> <p><input checked="" type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |
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Proposed Calendar Entry:

APSC 522 (6): Co-op Work Term III
 Supervised, technical paid work experience with a public or private organization for a minimum of 12 weeks full-time. Co-op assignment(s) required. Restricted to graduate degree students meeting requirement(s) of the Faculty of Applied Science and the Co-operative Education program.

URL:

<http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=APSC>

Present Calendar Entry:

N/A

Type of Action:

New Course

Rationale for Proposed Change:

To allow graduate students to participate in the Co-op Program.

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**Not available for Cr/D/F grading
 (undergraduate courses only)**

(Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)

Rationale for not being available for Cr/D/F: Courses in the Faculty of Applied Science are normally not permitted to be taken for Cr/D/F.

☒ **Pass/Fail or** ☐ **Honours/Pass/Fail grading**

(Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)

GRADUATE COURSES

Category 1

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| Faculty: Arts Department: Linguistics Faculty Approval: 2016 Nov 29 Effective Date for Change: 17W | Date: 12 October 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX Computational Linguistics | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code Action: Create new course code Rationale: A new code is needed to reflect the distinct course content for computational linguistics. |
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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 521 (1) Corpus Linguistics Describe, compare, and apply the main theories used in corpus linguistics, using qualitative and quantitative corpora, to perform diachronic and synchronic analyses. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisites: None</i> | URL: COLX Present Calendar Entry; NA Action: Create new course Rationale: Corpus linguistics combines sophisticated formal linguistic analysis with quantitative analysis of large bodies of text, making it a valuable tool in computational linguistics. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 523 (1) Advanced Corpus Linguistics Advanced computational techniques in multilingual corpora. Language change and linguistic variation; best practices for data collection, annotation and analysis. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisites: DSCI 511, COLX 521</i> | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: This course builds on COLX 543 to give students advanced skills in corpus linguistics, an essential area of computational linguistics. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 525 (1) Computational Morphology Identify and differentiate morphological processes occurring in natural language for implementation in computational linguistics applications. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisites: None</i> | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: The languages of the world exhibit great morphological variation, and computational linguists must have a deep understanding of this variation to create efficient parsers and other linguistic software. This course examines the vast diversity of morphological processes that natural languages exhibit, with special emphasis on computational implementation. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 527 (1) Advanced Computational Morphology Morphological parsing tools to analyze and understand multiple languages, including majority and low-resource languages, and to demonstrate computational implementation of fragments. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisite: COLX 525</i> | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: To correctly parse and understand many of the world's languages, such as Spanish, French or Arab, it is essential to parse morphology. This course gives hands-on experience creating computational tools for analyzing the range of morphological systems students learned to describe in COLX 525. |

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| Category: 1 Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 531 (1) Machine Translation Machine translation (MT), including an ability to implement lexical translation models, discriminative training models, and syntactic models in MT. Includes noisy channel translation, phrase-based machine translation, and how to evaluate models. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisite: DSCI 571</i> | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Machine translation is an important tool for many individuals and institutions, and this course equips students with the basic skills of machine translation, with a focus on imparting practical abilities in addition to theoretical knowledge. |

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| <p>Category: 1 Faculty: Arts Department: Linguistics Effective Date for Change: 18W</p> | <p>Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>COLX 533 (1) Advanced Machine Translation Machine translation (MT) for diverse groups of languages. Tools covered will include syntax decoding, synchronous parsing, large-scale language modeling, system combination, morphology in MT, topics in modeling, example-based MT, mining parallel data, and quality estimation.</p> <p><i>This course is not eligible for Credit/D/Fail grading.</i></p> <p>Prerequisite: COLX 531</p> | <p>URL: COLX</p> <p>Present Calendar Entry: NA</p> <p>Action: Create new course</p> <p>Rationale: Machine translation is a central application of computational linguistics. This course builds on the basic concepts covered in COLX 531 to give students professional skills in machine translation for diverse groups of languages.</p> |

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| <p>Faculty: Arts Department: Linguistics Effective Date for Change: 18W</p> | <p>Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>COLX 535 (1) Parsing for Computational Linguistics Methods of natural language parsing: finite state approaches, class-based language models, part-of-speech tagging, NP chunking, shallow parsing, and context free syntactic parsing.</p> <p><i>This course is not eligible for Credit/D/Fail grading.</i></p> <p>Prerequisites: DSCI 511, DSCI 551, COLX 521</p> | <p>URL: COLX</p> <p>Present Calendar Entry; NA</p> <p>Action: Create new course</p> <p>Rationale: This course is one of the modules for the new professional Master's program in Computational Linguistics.</p> <p>Natural language parsing is one of the core competencies of computational linguistics, so in this module students will learn a key set of methods of natural language parsing.</p> |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 561 (1) Computational Semantics Language processing to analyze lexical semantics. WordNet, FrameNet, and the semantic web, applied to word-sense disambiguation, entailment, question-answering, and knowledge base populations. <i>This course is not eligible for Credit/D/Fail grading.</i> Prerequisites: COLX 535 | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Semantics is one of the core research areas in computational linguistics, as making decisions based on the meanings of words and phrases is a necessary component of almost all practical NLP systems, so it is crucial that students have professional skill in this area. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 563 (1) Advanced Computational Semantics Statistical and neural approaches to natural-language meaning in computational semantics <i>This course is not eligible for Credit/D/Fail grading.</i> Prerequisite: COLX 561 | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Newly adopted techniques have revolutionized computational semantics, and it is important that students build on their basic skills in computational linguistics, as covered in COLX 561, to complete their skill sets and include these new areas. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 565 (1) Sentiment Analysis Data crawling, annotation, evaluation, and modeling lexical information. <i>This course is not eligible for Credit/D/Fail grading.</i> Prerequisite: COLX 563 | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Sentiment Analysis (SA) is a vibrant and important area in computational linguistics, due to its multiple practical applications for businesses and governmental bodies. Building efficient SA systems, however, is challenging as it necessitates a deep understanding of how human language behaves, a strong background in natural language processing, and solid engineering skills. This course will give students the background they need in these important areas. |

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| Category: 1 Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 581 (1) Natural Language Processing for Low-Resource Languages Computational tools in relation to low-resource and other under-documented and very-low-resource language. <i>This course is not eligible for Credit/D/Fail grading.</i> Prerequisite: COLX 535 | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Documentation and revitalization of low-resource languages – particularly but not limited to British Columbia’s indigenous languages – is a core goal of the wider UBC Linguistics program, and computational linguistics can make significant contributions to these areas. This course will help students navigate the unique challenges that computational linguists face when working with these underdocumented languages, and assist them in building collaborations between computational linguistics, fieldworkers, and communities. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 585 (1) Trends in Computational Linguistics Techniques for identifying, analyzing, and synthesizing primary sources for the most current research in computational linguistics. <i>This course is not eligible for Credit/D/Fail grading.</i> <i>Prerequisites: None</i> | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: Computational linguistics is a rapidly developing field, and it is important for students to be able to locate and utilize state-of-the-art research; this course will help them develop the skills to do so effectively. |

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| Faculty: Arts Department: Linguistics Effective Date for Change: 18W | Date: 29 November 2016 Contact Person: Bryan Gick Phone: 604-822-4817 Email: gick@mail.ubc.ca |
| Proposed Calendar Entry: COLX 595 (6) Capstone Project Students will apply and demonstrate the entirety of the skill set they have acquired in the previous modules, defining a problem and creating and implementing a solution using a complex, real dataset, under the same circumstances as working computational linguists. <i>This course is not eligible for Credit/D/Fail grading.</i> Prerequisite: 24 credits of DSCI and COLX courses | URL: COLX Present Calendar Entry: NA Action: Create new course Rationale: The capstone project is a chance for students to apply and hone their highest level skills through a major collaborative major project, which they can also use as a portfolio piece. |

THE UNIVERSITY OF BRITISH COLUMBIA

CATEGORY ONE Proposals

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| Category: (1) Faculty: Arts, G&PD Department: Political Science Faculty Approval Date: Nov 30, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: September 26, 2017 Contact Person: Allen Sens and cc Lois Nightingale Email: asens@mail.ubc.ca ; cc to Arts.Curriculum@ubc.ca ; |
| Proposed Calendar Entry: POLI 567 (3/6) d Norms and Ethics in World Politics | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=POLI Present Calendar Entry: N/A Type of Action: Create new Course Rationale for Proposed Change: This course is currently taught as a pilot by a full professor under our POLI 562 (Topics In International Relations) course shell. The Department wishes to create new course numbers and titles for courses taught under “Issues” or “Topics” course shells that we expect to continue to offer on a regular basis. Doing so will more accurately present our course offerings to students and more accurately reflect on student transcripts the subject matter our students have completed. The subject of ethics in world politics has become increasingly important in the study of Political Science and International Relations, and adding a course on this subject to our formal graduate curriculum recognizes this development. The course will continue to be taught by the full professor into the foreseeable future. |

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| <p>Faculty: Commerce and Business Administration</p> <p>Faculty Approval Date: 2017 Dec 08</p> <p>Effective Session (W or S): Winter</p> <p>Effective Academic Year: 2017</p> | <p>Date: May 3, 2016</p> <p>Contact Person: Kin Lo / Wendy Ma</p> <p>Phone: 2-8430 / 7-1732</p> <p>Email: kin.lo@sauder.ubc.ca / wendy.ma@sauder.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>BAEN 548 (1.5) Social Entrepreneurship <i>This course is not eligible for Credit/D/Fail grading.</i></p> | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=BAEN</p> <p>Present Calendar Entry:</p> <p>N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This course has been offered for several years in the Full-Time MBA program as BAEN 580A – Topics in Entrepreneurship. The School would like to formalize this course offering in the academic calendar.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |

Category: (1)

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| Faculty: Commerce and Business Administration Faculty Approval Date: 2017 Dec 08 Effective Session (W or S): Winter Effective Academic Year: 2017 | Date: May 3, 2016 Contact Person: Kin Lo / Wendy Ma Phone: 2-8430 / 7-1732 Email: kin.lo@sauder.ubc.ca / wendy.ma@sauder.ubc.ca |
| Proposed Calendar Entry: BAEN 549 (1.5) Innovation and Sustainability <i>This course is not eligible for Credit/D/Fail grading.</i> | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=BAEN Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This course has been offered for several years in the Full-Time MBA program as BAEN 580C – Topics in Entrepreneurship. The School would like to formalize this course offering in the academic calendar. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |

Category: (1)

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| Faculty: Commerce and Business Administration Faculty Approval Date: 2017 Dec 08 Effective Session (W or S): Winter Effective Academic Year: 2017 | Date: May 3, 2016 Contact Person: Kin Lo / Wendy Ma Phone: 2-8430 / 7-1732 Email: kin.lo@sauder.ubc.ca / wendy.ma@sauder.ubc.ca |
| <p>Proposed Calendar Entry:</p> <p>BAFI 519 (1.5) Topics in Investment Management <i>This course is not eligible for Credit/D/Fail grading.</i></p> | <p>URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=BAFI</p> <p>Present Calendar Entry:</p> <p>N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This course has been offered for several years in the Full-Time MBA program as BAFI 580C – Special Topics in Finance. The School would like to formalize this course offering in the academic calendar.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |

Category: (1)

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| Faculty: Commerce and Business Administration Faculty Approval Date: 2017 Dec 08 Effective Session (W or S): Winter Effective Academic Year: 2017 | Date: May 3, 2016 Contact Person: Kin Lo / Wendy Ma Phone: 2-8430 / 7-1732 Email: kin.lo@sauder.ubc.ca / wendy.ma@sauder.ubc.ca |
| Proposed Calendar Entry: BAHR 517 (1.5) Business Communications <i>This course is not eligible for Credit/D/Fail grading.</i> | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=BAHR Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This course has been offered for several years in the Master of Management program as BAHR 580D – Topics in Human Resources. The School would like to formalize this course offering in the academic calendar. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |

Category: (1)

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| Faculty: Commerce and Business Administration Faculty Approval Date: 2017 Dec 08 Effective Session (W or S): Winter Effective Academic Year: 2017 | Date: May 3, 2016 Contact Person: Kin Lo / Wendy Ma Phone: 2-8430 / 7-1732 Email: kin.lo@sauder.ubc.ca / wendy.ma@sauder.ubc.ca |
| Proposed Calendar Entry: BASM 510 (1.5) Consulting Simulation <i>This course is not eligible for Credit/D/Fail grading.</i> | URL: http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=BASM Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This course has been offered for several years in the Full-Time MBA program as BASM 580B – Topics in Strategic Management. The School would like to formalize this course offering in the academic calendar. <input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.) Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so. <input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.) |



UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| <p>Faculty: Education Department: EDCP Faculty Approval Date: Nov. 7, 2017 Effective Session (S): S Effective Academic Year: 2018</p> | <p>Date: October 31st, 2017 Contact Person: Joy Butler Phone: 604.822.4974 Email: joy.butler@ubc.ca</p> |
| <p>Proposed Calendar Entry: (40 word limit for course descriptions)</p> <p>EDCP 533 (3) Health, Outdoor and Physical Experiential Education Curriculum, Pedagogy and Place in the Elementary School</p> <p>Concepts, skills, and dispositions necessary to teach health, outdoor and physical education through inclusive, developmentally appropriate progressions. Introduction to theoretical, philosophical and practical research dimensions of constructivist learning and teaching approaches with reference to the BC Curriculum.</p> | <p>URL:</p> <p>http://www.calendar.ubc.ca/vancouver/courses.cfm?page=code&code=EDCP</p> <p>Present Calendar Entry: NA</p> <p>Type of Action: New course creation (e.g., new course, delete course, etc.)</p> <p>Rationale for Proposed Change: This change is intended to regularize this course, which has been taught as a special topics course for several years in the Health, Outdoor, and Physical Experiential Education (HOPE-Ed) program. This graduate course provides professionals focused on Elementary Education with a timely opportunity to situate their teaching and learning practices within constructivist and experiential approaches.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 552 (1.5) Membrane Proteins: Structure, biosynthesis and cell sorting of membrane proteins; and the structure-function relationships of channels, transporters and receptors. | URL: N/A Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: <p>The Graduate Program in Biochemistry offers advanced study and research in Biochemistry. The Program is designed to provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research.</p> <p>Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are required to take 4 three credit courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose the topics and methodologies that are of most relevant to their specific research areas, individual backgrounds and goals and will accommodate the diverse backgrounds of students and the broad nature of research in</p> |

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| | <p>Biochemistry.</p> <p>The 3.0 credit course, BIOC 509, will be split into two 1.5 credit courses, BIOC 552 and BIOC 553. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 509 is taught by three instructors, two teach (Molday, Duong) one half of the course and the third teaches (Cullis) the other half. One half focuses on properties of membrane proteins and the other half focuses on the most recent advances in lipid biology. The division of the course into two 1.5 credit courses is natural, as each instructor will still cover the same course content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant to their specific thesis research areas, individual backgrounds and goals.</p> |
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Category: (1)

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| <p>Faculty: Medicine</p> <p>Department: Biochemistry and Molecular Biology</p> <p>Faculty Approval Date: Nov. 17, 2018</p> <p>Effective Session: W</p> <p>Effective Academic Year: 2018</p> | <p>Date: Oct. 6, 2017</p> <p>Contact Person: Eric Jan</p> <p>Phone: 604-827-4226</p> <p>Email: ej@mail.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>BIOC 553 (1.5 credits) Advanced Topics in Lipid Biology Principles of lipid structure and dynamics; biochemical approaches to study lipids and applications of lipid biology.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course creation</p> <p>Rationale for Proposed Change: The Graduate Program in Biochemistry</p> |

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| | <p>offers advanced study and research in Biochemistry. The Program is designed to provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research.</p> <p>Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are required to take 4 three credit courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose the topics and methodologies that are of most relevant to their specific research areas, individual backgrounds and goals and will accommodate the diverse backgrounds of students and the broad nature of research in Biochemistry.</p> <p>The 3.0 credit course, BIOC 509, will be split into two 1.5 credit courses, BIOC 552 and BIOC 553. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 509 is taught by three instructors, two teach (Molday, Duong) one half of the course and the third teaches (Cullis) the other half. One half focuses on properties of membrane proteins and the other half focuses on the most recent advances in lipid biology. The division of the course into two 1.5 credit courses is natural, as each instructor will still cover the same course content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant</p> |
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| | to their specific thesis research areas, individual backgrounds and goals. |
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Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 554 (1.5) Nucleic Acids: DNA/RNA Structure and Function. Mechanisms, regulation and dynamics of DNA and RNA biology. Structure and function of nucleic acids and their role in replication, transcription, translation and expression of genetic information. | URL N/A Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: The Graduate Program in Biochemistry offers advanced study and research in Biochemistry. The Program is designed to provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research. Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are required to take 4 three courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose that will accommodate the diverse backgrounds of students and the broad nature of research in Biochemistry and Molecular Biology. |

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| | <p>The 3.0 credit course, BIOC 510, will be split into two 1.5 credit courses, BIOC 554 and BIOC 555. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 510 is taught by two instructors, Drs. Eric Jan and LeAnn Howe, each teaching one half of the course. One half focuses on properties of DNA/RNA structure function and the other half focuses on epigenetics. The division of the course into two 1.5 credit courses is natural, as each instructor will still cover the same course content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant to their specific thesis research areas, individual backgrounds and goals.</p> |
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Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 555 (1.5) Epigenetics: Principles, regulation and dynamics of epigenetics. | URL N/A Present Calendar Entry: N/A Type of Action: Create a new course Rationale for Proposed Change: The Graduate Program in Biochemistry offers advanced study and research in Biochemistry. The Program is designed to |

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| | <p>provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research.</p> <p>Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are required to take 4 three courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose that will accommodate the diverse backgrounds of students and the broad nature of research in Biochemistry and Molecular Biology.</p> <p>The 3.0 credit course, BIOC 510, will be split into two 1.5 credit courses, BIOC 554 and BIOC 555. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 510 is taught by two instructors, Drs. Eric Jan and LeAnn Howe, each teaching one half of the course. One half focuses on properties of DNA/RNA structure function and the other half focuses on epigenetics. The division of the course into two 1.5 credit courses is natural, as each instructor will still cover the same course content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant to their specific thesis research areas, individual backgrounds and goals.</p> |
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Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 557 (1.5) Advanced Topics in Biochemistry Advances in biochemical approaches. Topics vary. | URL: N/A Present Calendar Entry: N/A Type of Action: New Course creation Rationale for Proposed Change: <p>BIOC 557 will be used for one-time offerings and to pilot courses. Topics will vary from year to year. The description below outlines a version likely to be among the initial offerings of BIOC 557.</p> <p>At present, the Program does not offer a course in proteomics, which is now an established biochemical approach in many aspects of biology. The purpose of BIOC 557 is to provide students with an understanding of the basic principles in mass spectrometry based proteomics, as well as the main and current applications of proteomics-based approaches. Students will be exposed to both didactic lectures to acquire theoretical knowledge and seminar-based lectures with discussions in order to enhance their analytical skill and to provide concrete examples of mass spectrometry based applications in biochemical research. Therefore, BIOC 557 will use primary research literature as its main resource. During the course, the students will also learn how to apply proteomics-based approaches in different fields. As with other module courses in the Graduate</p> |

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| | <p>Program in Biochemistry and Molecular Biology, this course also aims to further develop students' communication and critical thinking abilities, in addition to broaden their knowledge.</p> <p>BIOC 557 will be offered every two years in the second 6 weeks of Term 2 of the Winter Session.</p> |
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Category: (1)

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| <p>Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018</p> | <p>Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>BIOC 558 (1.5) Advanced Topics in Protein Chemistry I Contemporary theoretical and experimental investigation of protein structure-function relationships. Topics will vary.</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change:</p> <p>The Graduate Program in Biochemistry offers advanced study and research in Biochemistry. The Program is designed to provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research.</p> <p>Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are</p> |

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| | <p>required to take 4 three credit courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose the topics and methodologies that are of most relevant to their specific research areas, individual backgrounds and goals and will accommodate the diverse backgrounds of students and the broad nature of research in Biochemistry.</p> <p>The 3.0 credit course, BIOC 514, will be split into two 1.5 credit courses, BIOC 558 and BIOC 559. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 514 is taught by two instructors, Drs. Lawrence McIntosh and Filip Van Petegem. Each teaches half of the course focusing on distinct biochemical approaches to study structure-function relationships. The division of the course is natural, as each instructor will still cover the same course content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant to their specific thesis research areas, individual backgrounds and goals.</p> |
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Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 559 (1.5) Advanced Topics in Protein Chemistry II | URL: N/A Present Calendar Entry: N/A |

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| <p>Contemporary theoretical and experimental investigation of protein structure-function relationships. Topics will vary.</p> | <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change:</p> <p>The Graduate Program in Biochemistry offers advanced study and research in Biochemistry. The Program is designed to provide graduate students from diverse backgrounds with a critical understanding of modern biochemistry and molecular biology and provides extensive training in specialized aspects of biochemistry and molecular biology through thesis research.</p> <p>Students entering the Biochemistry Graduate Program are required to successfully complete 12 credits in their first 1.5 years. Currently, the program offers three credit courses, thus students are required to take 4 three credit courses. The present changes call for establishment of nine 1.5 credit courses that have been designed to further increase flexibility for students to choose the topics and methodologies that are of most relevant to their specific research areas, individual backgrounds and goals and will accommodate the diverse backgrounds of students and the broad nature of research in Biochemistry.</p> <p>The 3.0 credit course, BIOC 514, will be split into two 1.5 credit courses, BIOC 558 and BIOC 559. We have renamed them with new course numbers in order to not confuse with the previous course numbering. Currently, BIOC 514 is taught by two instructors, Drs. Lawrence McIntosh and Filip Van Petegem. Each teaches half of the course focusing on distinct biochemical approaches to study structure-function relationships. The division of the course is natural, as each instructor will still cover the same course</p> |
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| | content. No changes in course objectives, content or curriculum. By offering shorter, more focused courses, the students will have flexibility and opportunities to select specialized courses that are most relevant to their specific thesis research areas, individual backgrounds and goals. |
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Category: (1)

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| Faculty: Medicine Department: Biochemistry and Molecular Biology Faculty Approval Date: Nov. 17, 2017 Effective Session: W Effective Academic Year: 2018 | Date: Oct. 6, 2017 Contact Person: Eric Jan Phone: 604-827-4226 Email: ej@mail.ubc.ca |
| Proposed Calendar Entry: BIOC 560 (1.5) Computational Approaches in Biochemistry Computational approaches to study protein and nucleic acids. | URL: N/A Present Calendar Entry: N/A Type of Action: New Course creation Rationale of the Proposed Change At present, the Program does not offer a course in computational approaches in biochemistry, which is now an established biochemical approach in structural and molecular biology. The purpose of BIOC 560 is to provide students with an understanding of the basic principles in computational software and modeling to study protein and nucleic acids. Students will be exposed to both didactic lectures and hands-on assignments to acquire theoretical knowledge and seminar-based lectures with discussions in order to enhance their analytical skill and to provide concrete examples of computational approaches in biochemical research. During the course, the students will also learn how to apply computational-based approaches in different fields. Together with the other module courses in the Graduate Program in |

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| | <p>Biochemistry and Molecular Biology, this course also aim to further develop students' communication and critical thinking abilities, in addition to broaden their knowledge.</p> <p>BIOC 560 will be offered annually in the second 6 weeks of Term 1 of the Fall Session.</p> |
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Master of Data Science Computational Linguistics Option

Department of Linguistics
Faculty of Arts
Department of Computer Science and Department of Statistics
Faculty of Science
University of British Columbia
25 January 2018

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1. Executive Summary

1.1 Overview

As the overall field of data science continues to grow, software developers trained specifically in working with complex language data are quickly becoming critical to the success of global businesses, and these businesses are competing to attract employees qualified to address their needs. This trend holds at all levels of industry, including the highest levels: for example, five of the ten most valuable companies in the world today—Alphabet (Google’s parent company), Facebook, Amazon.com, Microsoft and Apple—all operate at the intersection between language and computation, whether via search engines, discourse analysis of social media, machine translation or summary. As the field of computational linguistics continues to grow as a key part of the global information economy, the utility of many of the existing tools developed for resource-rich languages like English and Mandarin Chinese is driving creation of new tools in these languages, and the extension of existing tools to other languages. This new development is increasingly dependent on experts with crossover knowledge between computation and linguistics.

Responding to these trends, increasing numbers of graduates of linguistics and allied disciplines are seeking to develop computational competences, and the result is an unfilled need for training programs in this area. The demand for computational linguistics degrees is so insatiable that universities with existing programs are sharing instructional materials in an attempt to generate enough graduates for the marketplace.

The goal of the Master of Data Science–Computational Linguistics option—which will be the first program of its kind in Canada—is therefore to meet two crucial needs:

- (i) To provide a pathway for the many students with a background in language to apply their knowledge in a technical domain through training at a top institution;
- (ii) To supply crucial specialized training for developers already working in industry

The M.D.S.–C.L. will graduate students with the skills and perspectives necessary to solve significant problems for government and industry, using the cutting-edge combination of linguistics and computational applications. Computational linguistics is a growth area within a growth area: the employment outlook for software designers is strong in BC and many other areas, and the field is projected to continue to grow for at least the next 10 years (US projections anticipate a 17% increase, to over 1 million jobs, during this period); and as the overall field continues to grow, multiple sources indicate that specialization in computational linguistics will continue to be a leading growth area within the field.

1.2 Credential

This proposal provides for a new option to the existing Master of Data Science (M.D.S.) The option, Computational Linguistics, will appear on the transcript but the parchment will remain unchanged, listing only Master of Data Science.

1.3 Location

The University of British Columbia's Point Grey campus is the location for classroom education and administration.

1.4 Faculty Offering Program

Science will be the awarding faculty for the Master of Data Science, and will be responsible for the administration of the program's Science courses; the Faculty of Arts will administer the Computational Linguistics option, including being responsible for administration of the COLX courses in the program. Course-level issues (e.g. misconduct, appeals) will go through normal processes of the Faculty delivering the course. Any other issues, or escalated course-level issues will be addressed by the awarding Faculty, which is the Faculty of Science.

1.5 Program Start Date

The Computational Linguistics degree option will be first offered starting in September 2019.

1.6 Program Completion Time

Anticipated time for completion of the program is 10 months of full-time study (8 months for the 24 one-credit course modules, and 2 months for the capstone project).

1.7 Objectives and Program Learning Outcomes

The Master of Data Science–Computational Linguistics option shares a majority of its objectives/learning outcomes with the existing Master of Data Science.

M.D.S. objectives/outcomes objectives that are applied specifically to language

- Appropriately select and tailor data science and linguistic methods to deal with diverse data types (with a special emphasis on language data) across diverse subject-area domains.
- Apply linguistic and data science analysis to the creation of tools and methods for low-resource languages.

M.D.S. objectives/outcomes shared across options:

- Apply a scientific approach to marshalling and exploring data, generating and testing hypotheses, designing experiments, and testing/validating methods.
- Select an appropriate data analysis approach and apply it to a new problem area in a context-appropriate manner.
- Manipulate messy, ill-formed data to extract meaningful insights.
- Collaborate with and communicate results of data science experiments to diverse audiences, and recommend subsequent actions to decision makers.
- Apply fundamental statistical thinking in the data analysis process, with reference to concepts such as overfitting, confounding, bias, variability, validity, and reliability.
- Apply fundamental programming principles in the data analysis process, with particular emphasis on modularity and reproducibility.

1.8 Delivery Methods

The Master of Data Science–Computational Linguistics option shares the same delivery methods as the existing Master of Data Science.

Existing M.D.S. delivery methods:

- 24 credits of coursework + 6-credit capstone project
- The 24 credits are made up of 24 1-credit courses.
- 1-credit courses will be taught four at a time for four weeks, some 1-credit courses are taught two at a time for a duration of two weeks.
- courses will be face-to-face lectures with some blended delivery
- A small number of selected datasets will be consistently used across the courses, providing continuity for the students across courses.
- The capstone project will allow students to work in groups and solve problems by working with real-world data.
- Students will pose critical questions about data, plan a solution, allocate responsibilities among the team and reflect on the strengths and weaknesses of the approach they choose.

1.9 Program Requirements

Students of the M.D.S.–C.L. will take 24 1-credit courses and a 6-credit capstone project course. The 1-credit courses are organized into four-week courses over 8 months, allowing focused study in particular areas. The 6-credit capstone course is taken in the final 2 months of the 10-month program. The capstone course enables students to work in groups to simulate the process of solving a domain problem on real-world data. The project work will include posing critical questions about real-world data within a particular domain, making a plan, allocating responsibilities among team members, employing the skills they have learned throughout the program, and reflecting on the strengths and weaknesses of the chosen approach. The students will be mentored by a faculty member during the capstone project.

The 25 courses (24 1-credit courses and one 6-credit capstone course) are:

Fourteen 1-credit courses offered by the Faculty of Science:

Core M.D.S.

- DSCI 551 Descriptive Statistics and Probability for Data Science
- DSCI 511 Programming
- DSCI 512 Algorithms and Data Structures
- DSCI 561 Regression I
- DSCI 552 Statistical Inference and Computation I
- DSCI 571 Supervised Learning I

Fundamental M.D.S.

- DSCI 513 Databases and Data Retrieval
- DSCI 521 Computing Platforms
- DSCI 522 Data Science Workflows
- DSCI 523 Data Wrangling

Advanced M.D.S.

- DSCI 541 Privacy, Ethics and Security

- DSCI 563 Unsupervised Learning
- DSCI 572 Supervised Learning II
- DSCI 575 Advanced Machine Learning

Eight COLX courses specific to the C.L. option and one six-credit capstone:

Fundamental C.L. option

- COLX 521 Corpus Linguistics
- COLX535 Parsing for Computational Linguistics

Advanced C.L.

- COLX 525 Computational Morphology
- COLX 531 Machine Translation
- COLX 561 Computational Semantics
- COLX 563 Advanced Computational Semantics
- COLX 565 Sentiment Analysis
- COLX 585 Trends in Computational Linguistics

Electives (each student will take two)

- COLX 523 Advanced Corpus Linguistics
- COLX 527 Advanced Computational Morphology
- COLX 533 Advanced Machine Translation
- COLX 581 NLP for Low-Resource Languages

Six-credit Capstone project

- COLX 595 Capstone Project

This option will follow the general M.D.S. academic regulations.

1.10 Program Overview

Throughout the course, students will be exposed to the program outcomes early, and will revisit the outcomes throughout the master's, either as central outcomes of the master's, or as secondary (Table 1). Central outcomes are taught or developed explicitly, whereas secondary outcomes are heavily practiced. Peripheral Outcomes are touched on during the course. Table 2 shows the scheduling of the courses.

| | | | | | | |
|---|--|--|--|--|--|-------------------------|
| Apply a scientific approach to marshalling and exploring data, generating and testing hypotheses, designing experiments, and testing/validating methods. | | | | | | Program Outcomes |
| Select an appropriate data analysis approach and apply it to a new problem area in a context-appropriate manner. | | | | | | |
| Manipulate messy, ill-formed data to extract meaningful insights. | | | | | | |
| Appropriately select and tailor data science methods to deal with diverse data types (numeric, categorical, text, dates, graphs, etc.) across diverse subject-area domains. | | | | | | |
| Collaborate with and communicate results of data science experiments to diverse audiences, and recommend subsequent actions to decision makers. | | | | | | |
| Apply fundamental statistical thinking in the data analysis process, with reference to concepts such as overfitting, confounding, bias, variability, validity, and reliability. | | | | | | |
| Apply fundamental programming principles in the data analysis process, with particular emphasis on modularity and reproducibility. | | | | | | |
| | | | | | DSCI 511 Programming | Core MDS courses |
| | | | | | DSCI 551 Descriptive Statistics and Probability for Data Science | |
| | | | | | DSCI 512 Algorithms and data structures | |
| | | | | | DSCI 552 Statistical Inference and Computation I | |
| | | | | | DSCI 551 Regression I | |
| | | | | | DSCI 571 Supervised Learning I | Fundamental MDS courses |
| | | | | | DSCI 521 Computing Platforms | |
| | | | | | DSCI 523 Data Wrangling | |
| | | | | | DSCI 522 Data Science Workflows | |
| | | | | | DSCI 513 Databases and Data Retrieval | |
| | | | | | DSCI 563 Unsupervised Learning | Advanced MDS Courses |
| | | | | | DSCI 541 Privacy, Ethics and Security | |
| | | | | | DSCI 572 Supervised Learning II | |
| | | | | | DSCI 575 Advanced Machine Learning | |
| | | | | | COLX 521 Corpus Linguistics | |
| | | | | | COLX 535 Parsing for Computational Linguistics | C.L.-stream |
| | | | | | COLX 561 Computational Semantics | |
| | | | | | COLX 525 Computational Morphology | |
| | | | | | COLX 531 Machine Translation | |
| | | | | | COLX 563 Advanced Computational Semantics | |
| | | | | | COLX 565 Sentiment Analysis | C.L.-stream Electives |
| | | | | | COLX 585 Trends in Computational Linguistics | |
| | | | | | COLX 581 NLP for Low-Resource Languages | |
| | | | | | COLX 533 Advanced Machine Translation | |
| | | | | | COLX 527 Advanced Computational Morphology | |
| | | | | | COLX 523 Advanced Corpus Linguistics | |




| Legend | | | | |
|---|-----------------------------------|--|------------------------------|-------------------------|
|  | Primary objective of the course | Core M.D.S. Courses | Fundamental M.D.S. Courses | Advanced M.D.S. Courses |
|  | Secondary objective of the course | Fundamental C.L. Stream Courses | Advanced C.L. Stream Courses | Electives |

Table 2.

| Fall (Sep-Dec) | Winter (Jan-Apr) | Spring (May-June) |
|---|--|---------------------------|
| Block 1 | Block 4 | |
| <i>DSCI 511 Programming</i> | DSCI 563 Unsupervised Learning | COLX 595 Capstone Project |
| <i>DSCI 551 Descriptive Statistics and Probability for Data Science</i> | COLX 561 Computational Semantics | |
| DSCI 521 Computing Platforms | COLX 525 Computational Morphology | |
| <i>COLX 521 Corpus Linguistics</i> | DSCI 572 Supervised Learning II | |
| Block 2 | Block 5 | |
| DSCI 523 Data Wrangling | DSCI 541 Privacy, Ethics and Security | |
| <i>COLX 535 Parsing for Computational Linguistics</i> | DSCI 575 Advanced Machine Learning | |
| <i>DSCI 512 Algorithms and Data Structures</i> | COLX 531 Machine Translation | |
| <i>DSCI 552 Statistical Inference and Computation I</i> | <i>Elective I</i> | |
| Block 3 | Block 6 | |
| <i>DSCI 561 Regression I</i> | COLX 563 Advanced Computational Semantics | |
| DSCI 522 Data Science Workflows | COLX 585 Trends in Computational Linguistics | |
| <i>DSCI 571 Supervised Learning I</i> | COLX 565 Sentiment Analysis | |
| DSCI 513 Databases and Data Retrieval | <i>Elective II</i> | |

Electives*COLX 581 NLP for Low-Resource Languages**COLX 533 Advanced Machine Translation**COLX 527 Advanced Computational Morphology**COLX 523 Advanced Corpus Linguistics***Legend**

| | | | | |
|---|-----------------------------------|--|------------------------------|-------------------------|
|  | Primary objective of the course | Core M.D.S. Courses | Fundamental M.D.S. Courses | Advanced M.D.S. Courses |
|  | Secondary objective of the course | Fundamental C.L. Stream Courses | Advanced C.L. Stream Courses | Electives |

1.11 Admission Requirements

The Master of Data Science–Computational Linguistics option shares the same admissions requirements as the existing Master of Data Science. While we expect many applicants will have a degree in a linguistics-related field, we will consider students who have the required technical background and who express a strong interest and some background in a linguistics-related field.

Existing M.D.S. admissions requirements:

Applicants must meet the general admission requirements for master's degrees set by the Faculty of Graduate and Postdoctoral Studies.

Applicants must also provide proof of successful completion of:

1. one course in programming (e.g., UBC CPSC 110 or APSC 160 or equivalent);
2. one course in probability and/or statistics (e.g., UBC STAT 200 or STAT 241/251 or STAT 302 or equivalent); and,
3. one course in calculus (e.g., UBC MATH 100 or equivalent) or one course in linear algebra (e.g., UBC MATH 221 or equivalent). Completion of a course in each of calculus and linear algebra is recommended.

Applicants must provide:

- A statement of interest describing their academic background, future career goals and their interest in data science.
- A résumé, including links to any relevant software or data science projects.
- Three reference letters.

Upon admission, applicants will be required to provide a \$1,000 (CAD) non-refundable deposit that will be applied to their first tuition instalment.

Applicants who do not meet the admission requirements stated above, but who have had other significant formal training, relevant professional experience, and/or otherwise possess demonstrable knowledge or expertise that would prepare them adequately for successful study in the graduate program, may be granted admission on the recommendation of the Program Director and the approval of the Dean of Science.

2.0 Calendar Changes

2.1 Change to existing program

UBC Curriculum Proposal Form Change to Course or Program

Category: 1

| | |
|--|---|
| <p>Faculty: Science Department: Computer Science, Statistics Faculty Approval Date: December 13, 2017</p> | <p>Date: November 28, 2017 Contact Persons: Bruce Dunham, George Tsiknis Phone: 2-4997 and 2-2930 Email: b.dunham@stat.ubc.ca and tsiknis@cs.ubc.ca</p> |
| <p>Effective Date for Change: 18S</p> <p>Proposed Calendar Entry:</p> <p>Data Science (M.D.S.)</p> <p>Degree Offered: Master of Data Science (M.D.S.)</p> <p>Members</p> <p>Professors</p> <p>Department of Computer Science: G.C. Murphy, T. Munzner, R. Ng. Department of Statistics: P. Gustafson, M. Salibián-Barrera.</p> <p>Associate Professors</p> <p>Department of Statistics: J. Bryan</p> <p>Assistant Professors</p> <p>Department of Computer Science: M. Schmidt Department of Statistics: A. Boucard-Côté School of Library, Archival & Information Studies (iSchool): M. Abdul-Mageed</p> <p>Instructors</p> <p>Department of Linguistics: J. Brooke</p> | <p>http://www.calendar.ubc.ca/vancouver//index.cfm?tree=12,215,989,1606#23589</p> <p>Present Calendar Entry:</p> <p>Data Science (M.D.S.)</p> <p>Degree Offered: Master of Data Science (M.D.S.)</p> <p>Members</p> <p>Professors</p> <p>Department of Computer Science: G.C. Murphy, T. Munzner, R. Ng. Department of Statistics: P. Gustafson, M. Salibián-Barrera.</p> <p>Associate Professors</p> <p>Department of Statistics: J. Bryan</p> <p>Assistant Professors</p> <p>Department of Computer Science: M. Schmidt Department of Statistics: A. Boucard-Côté</p> |

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| <p>Master of Data Science</p> <p>Program Overview</p> <p>The Master of Data Science (M.D.S.) is a program administered by the Faculty of Science.</p> <p>The Master of Data Science (M.D.S.) Computational Linguistics option is administered by the Faculty of Arts.</p> <p>The Master of Data Science (M.D.S.) is a 10 month, non-thesis professional degree program consisting of 30 credits. The program focuses on utilizing descriptive and prescriptive techniques to extract and analyze data from both unstructured and structured forms and to communicate the findings of those analyses to guide prescriptive change in organizations. This program will educate students in the analysis of data for many different disciplines, such as health care, commerce, and utilities, and will help address the demand for skilled data science professionals in these areas.</p> <p>This program is intended for students who do not have an undergraduate degree in Computer Science or Statistics; however, all applicants may be considered upon review by the graduate program.</p> <p>Admission Requirements</p> <p>Applicants must meet the general admission requirements for master's degrees set by the Faculty of Graduate and Postdoctoral Studies.</p> <p>Applicants must also provide proof of successful completion of:</p> <ol style="list-style-type: none"> 1. one course in programming (e.g., UBC CPSC 110 or APSC 160 or equivalent); 2. one course in probability and/or statistics (e.g., UBC STAT 200 or STAT 241/251 or STAT 302 or equivalent); and, | <p>Master of Data Science</p> <p>Program Overview</p> <p>The Master of Data Science (M.D.S.) is a program administered by the Faculty of Science.</p> <p>The Master of Data Science (M.D.S.) is a 10 month, non-thesis professional degree program consisting of 30 credits. The program focuses on utilizing descriptive and prescriptive techniques to extract and analyze data from both unstructured and structured forms and to communicate the findings of those analyses to guide prescriptive change in organizations. This program will educate students in the analysis of data for many different disciplines, such as health care, commerce, and utilities, and will help address the demand for skilled data science professionals in these areas.</p> <p>This program is intended for students who do not have an undergraduate degree in Computer Science or Statistics; however, all applicants may be considered upon review by the graduate program.</p> <p>Admission Requirements</p> <p>Applicants must meet the general admission requirements for master's degrees set by the Faculty of Graduate and Postdoctoral Studies.</p> <p>Applicants must also provide proof of successful completion of:</p> <ol style="list-style-type: none"> 1. one course in programming (e.g., UBC CPSC 110 or APSC 160 or equivalent); 2. one course in probability and/or statistics (e.g., UBC STAT 200 or STAT 241/251 or |
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| <p>3. one course in calculus (e.g., UBC MATH 100 or equivalent) or one course in linear algebra (e.g., UBC MATH 221 or equivalent). Completion of a course in each of calculus and linear algebra is recommended.</p> <p>Applicants must provide:</p> <ul style="list-style-type: none"> • A statement of interest describing their academic background, future career goals and their interest in data science. • A résumé, including links to any relevant software or data science projects. • Three reference letters. <p>Upon admission, applicants will be required to provide a \$1,000 (CAD) non-refundable deposit that will be applied to their first tuition instalment. Applicants who do not meet the admission requirements stated above, but who have had other significant formal training, relevant professional experience, and/or otherwise possess demonstrable knowledge or expertise that would prepare them adequately for successful study in the graduate program, may be granted admission on the recommendation of the Program Director and the approval of the Dean of Science.</p> <p>Academic Regulations</p> <p>This program will abide by the policies for master's degrees set by the Faculty of Graduate and Postdoctoral Studies with three exceptions:</p> <ol style="list-style-type: none"> 1. No transfer credit will be accepted for the M.D.S. program; 2. All issues relating to academic standing and progress that are not resolved by the Program Director will be referred to the Dean of Science (not the Dean of Graduate and Postdoctoral Studies). 3. Only 3 credits of courses with grades in the C to C+ range (60-67%) may be counted towards the M.D.S. program. For all other courses, a minimum of 68% must | <p>STAT 302 or equivalent); and,</p> <p>3. one course in calculus (e.g., UBC MATH 100 or equivalent) or one course in linear algebra (e.g., UBC MATH 221 or equivalent). Completion of a course in each of calculus and linear algebra is recommended.</p> <p>Applicants must provide:</p> <ul style="list-style-type: none"> • A statement of interest describing their academic background, future career goals and their interest in data science. • A résumé, including links to any relevant software or data science projects. • Three reference letters. <p>Upon admission, applicants will be required to provide a \$1,000 (CAD) non-refundable deposit that will be applied to their first tuition instalment. Applicants who do not meet the admission requirements stated above, but who have had other significant formal training, relevant professional experience, and/or otherwise possess demonstrable knowledge or expertise that would prepare them adequately for successful study in the graduate program, may be granted admission on the recommendation of the Program Director and the approval of the Dean of Science.</p> <p>Academic Regulations</p> <p>This program will abide by the policies for master's degrees set by the Faculty of Graduate and Postdoctoral Studies with three exceptions:</p> <ol style="list-style-type: none"> 1. No transfer credit will be accepted for the M.D.S. program; 2. All issues relating to academic standing and progress that are not resolved by the Program Director will be referred to the Dean of Science (not the Dean of Graduate and Postdoctoral Studies). 3. Only 3 credits of courses with grades in the C to C+ range (60-67%) may be counted towards the M.D.S. program. For all other |
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be obtained.

Program Requirements

The M.D.S. is a 10 month, non-thesis degree program consisting of 30 credits.

All M.D.S. students are required to complete the following 14 courses:

- DSCI 511 (1)
- DSCI 512 (1)
- DSCI 513 (1)
- DSCI 521 (1)
- DSCI 522 (1)
- DSCI 523 (1)
- DSCI 541 (1)
- DSCI 551 (1)
- DSCI 552 (1)
- DSCI 561 (1)
- DSCI 563 (1)
- DSCI 571 (1)
- DSCI 572 (1)
- DSCI 575 (1)

Students not pursuing the Computational Linguistics option are required to complete the following courses:

- DSCI 524 (1)
- DSCI 525 (1)
- DSCI 531 (1)
- DSCI 532 (1)
- DSCI 542 (1)
- DSCI 553 (1)
- DSCI 554 (1)
- DSCI 562 (1)
- DSCI 573 (1)
- DSCI 574 (1)
- DSCI 591 (6)

Students pursuing the Computational Linguistics option are required to complete the following courses:

courses, a minimum of 68% must be obtained.

Program Requirements

The M.D.S. is a 10 month, non-thesis degree program consisting of 30 credits.

- DSCI 511 (1)
- DSCI 512 (1)
- DSCI 513 (1)
- DSCI 521 (1)
- DSCI 522 (1)
- DSCI 523 (1)
- DSCI 524 (1)
- DSCI 525 (1)
- DSCI 531 (1)
- DSCI 532 (1)
- DSCI 541 (1)
- DSCI 542 (1)
- DSCI 551 (1)
- DSCI 552 (1)
- DSCI 553 (1)
- DSCI 554 (1)
- DSCI 561 (1)
- DSCI 562 (1)
- DSCI 563 (1)
- DSCI 571 (1)
- DSCI 572 (1)
- DSCI 573 (1)
- DSCI 574 (1)
- DSCI 575 (1)
- DSCI 591 (6)

- COLX 521 (1)
- COLX 525 (1)
- COLX 531 (1)
- COLX 535 (1)
- COLX 561 (1)
- COLX 563 (1)
- COLX 565 (1)
- COLX 585 (1)
- COLX 595 (6)

and complete any two of the following electives:

- COLX 523 (1)
- COLX 527 (1)
- COLX 533 (1)
- COLX 581 (1)

Financial Assistance

Financial assistance based on academic merit and financial need may be available. Students should consult the M.D.S. program website for more information.

Contact Information

Graduate Admissions
 Department of Computer Science
 201-2366 Main Mall
 Vancouver, BC, V6T 1Z4, Canada
 Tel: 604.822.1202
 Fax: 604.822.5485
 Email: grad-info@cs.ubc.ca
 Web: www.cs.ubc.ca/students/grad/prospective
 Joyce Poon, Graduate Program Administrator

Financial Assistance

Financial assistance based on academic merit and financial need may be available. Students should consult the M.D.S. program website for more information.

Contact Information

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 Web: www.cs.ubc.ca/students/grad/prospective
 Joyce Poon, Graduate Program Administrator

Action: Update calendar listing for M.D.S. to also include the M.D.S. Computational Linguistics option. Add Computational Linguistics faculty. Separate the required courses into multiple groups: those required by all students, those required of students not pursuing the Computational Linguistics option, and those required of students

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| | <p>pursuing the Computational Linguistics option.</p> <p>Rationale: A new option in the M.D.S. degree is being proposed. The Computational Linguistics option will be administered by the Faculty of Arts; the Faculty of Science will continue to grant all M.D.S. degrees.</p> <p>This option is being proposed to train students to meet the growing need for specialists at the intersection of software development and complex language data. Specialists in this field, dubbed Computational Linguistics, are quickly becoming critical to the success of global businesses. For example, five of the ten most valuable companies in the world today – Alphabet (Google’s parent company), Facebook, Amazon.com, Microsoft and Apple—all operate at the intersection between language and computation, whether via search engines, discourse analysis of social media, machine translation or summary. As the field of computational linguistics continues to grow as a key part of the global information economy, the utility of many of the existing tools developed for resource-rich languages like English and Mandarin Chinese is driving creation of new tools in these languages, and the extension of existing tools to other languages. This new development is increasingly dependent on experts with crossover knowledge between computation and linguistics.</p> <p>Responding to these trends, increasing numbers of graduates of linguistics and allied disciplines are seeking to develop computational competences, and the result is an unfilled need for training programs in this area. The demand for computational linguistics degrees is so insatiable that universities with existing programs are sharing instructional materials in an attempt to generate enough graduates for the marketplace.</p> <p>The goal of the Master of Data Science—Computational Linguistics option—which will be the first program of its kind in Canada—is therefore to meet two crucial needs:</p> <p>(i) To provide a pathway for the many students with</p> |
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| | <p>a background in language to apply their knowledge in a technical domain through training at a top institution;</p> <p>(ii) To supply crucial specialized training for developers already working in industry</p> <p>The Computational Linguistics option requires 14 courses that are defined to be core to all M.D.S. degrees, and replaces 10 more advanced DSCI courses with 10 subject area courses in Computational Linguistics, including 2 electives chosen from 4 alternatives. Further, the capstone course DSCI 591 is replaced with one in the subject area: COLX 595.</p> <p>Supporting Documents: SCI-17-1-MDS-CL</p> |
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Appendix A: Courses Previously Approved by Arts

All COLX courses have been approved by the Faculty of Arts (Nov 29, 2016), and by the Graduate Curriculum Committee on 13 January 2017.

A.1 COLX 521 (1) Corpus Linguistics

Describe, compare, and apply the main theories used in corpus linguistics, using qualitative and quantitative corpora, to perform diachronic and synchronic analyses.

This course is not eligible for Credit/D/Fail grading.

Prerequisites: None

A.2 COLX 523 (1) Advanced Corpus Linguistics

Advanced computational techniques in multilingual corpora. Language change and linguistic variation; best practices for data collection, annotation and analysis.

This course is not eligible for Credit/D/Fail grading.

Prerequisites: COLX 521, DSCI 511

A.3 COLX 525 (1) Computational Morphology

Identify and differentiate morphological processes occurring in natural language for implementation in computational linguistics applications. *This course is not eligible for Credit/D/Fail grading.*

Prerequisites: None

A.4 COLX 527 (1) Advanced Computational Morphology

Morphological parsing tools to parse and understand multiple languages, including majority and low-resource languages, and to demonstrate computational implementation of fragments. *This course is not eligible for Credit/D/Fail grading.*

Prerequisite: COLX 525

A.5 COLX 531 (1) Machine Translation

Machine translation (MT), including an ability to implement lexical translation models, discriminative training models, and syntactic models in MT. Includes noisy channel translation, phrase-based machine translation, and how to evaluate models.

This course is not eligible for Credit/D/Fail grading.

Prerequisite: DSCI 571

A.6 COLX 533 (1) Advanced Machine Translation

Machine translation (MT) for diverse groups of languages. Tools covered will include syntax decoding, synchronous parsing, large-scale language modeling, system combination, morphology in MT, topics in modeling, example-based MT, mining parallel data, and quality estimation.

This course is not eligible for Credit/D/Fail grading.

Prerequisite: COLX 531

A.7 COLX 535 (1) Parsing for Computational Linguistics

Methods of natural language parsing: finite state approaches, class-based language models, part-of-speech tagging, Noun phrase (NP) chunking, shallow parsing, and context free syntactic parsing.

This course is not eligible for Credit/D/Fail grading.

Prerequisites: DSCI 511, DSCI 551, COLX 521

A.8 COLX 561 (1) Computational Semantics

Language processing to analyze lexical semantics. WordNet, FrameNet, and the semantic web, applied to word-sense disambiguation, entailment, question-answering, and knowledge base populations.

This course is not eligible for Credit/D/Fail grading.

Prerequisites: COLX 535

A.9 COLX 563 (1) Advanced Computational Semantics

Statistical and neural approaches to natural-language meaning in computational semantics

This course is not eligible for Credit/D/Fail grading.

Prerequisite: COLX 561

A.10 COLX 565 (1) Sentiment Analysis

Sentiment Analysis as expressed in natural language. Includes data crawling, annotation, evaluation, and modeling lexical information.

This course is not eligible for Credit/D/Fail grading.

Prerequisite: COLX 563

A.11 COLX 581 (1) NLP for Low-Resource Languages

Computational tools in relation to low-resource and other under-documented and very-low-resource language.

This course is not eligible for Credit/D/Fail grading.

Prerequisite: COLX 535

A.12 COLX 585 (1) Trends in Computational Linguistics

Techniques for identifying, analyzing, and synthesizing primary sources for the most current research in computational linguistics.

This course is not eligible for Credit/D/Fail grading.

Prerequisites: None

A.13 COLX 595 (6) Capstone Project

Students will apply and demonstrate the entirety of the skill set they have acquired in the previous

modules in computational linguistics, by defining a problem and creating and implementing a solution using a complex, real dataset, under the same circumstances as working computational linguists.

This course is not eligible for Credit/D/Fail grading.

Prerequisite: 24 credits of DSCI and COLX courses

Appendix B: Existing DSCI Courses to be Taken by M.D.S.–C.L. Students

B.1 DSCI 511 (1) Programming for Data Science

Basic programming in R and Python. Overview of data structures, iteration, flow control, and program design relevant to data exploration and analysis. When and how to exploit pre-existing libraries.

B.2 DSCI 512 (1) Algorithms and Data Structures

How to choose and use appropriate algorithms and data structures to help solve data science problems. Key concepts such as recursion and algorithmic complexity (e.g., efficiency, scalability).

B.3 DSCI 513 (1) Databases and Data Retrieval

How to work with data stored in relational database systems or in formats utilizing markup languages. Storage structures and schemas, data relationships, and ways to query and aggregate such data.

B.4 DSCI 521 (1) Computing Platforms for Data Science

How to install, maintain, and use the data scientific software “stack”. The Unix operating system, integrated development environments, and problem solving strategies.

B.5 DSCI 522 (1) Data Science Workflows

Interactive vs. scripted/unattended analyses and how to move fluidly between them.

Reproducibility through automation and dynamic, literate documents. The use of version control and file organization to enhance machine- and human-readability.

B.6 DSCI 523 (1) Data Wrangling

Converting data from the form in which it is collected to the form needed for analysis. How to clean, filter, arrange, aggregate, and transform diverse data types, e.g. strings, numbers, and date-times.

B.7 DSCI 525 (1) Web and Cloud Computing

How to use the web as a platform for data collection, computation, and publishing. Accessing data via scraping and APIs. Using the cloud for tasks that are beyond the capability of your local computing resources.

B.8 DSCI 541 (1) Privacy, Ethics, and Security

The legal, ethical, and security issues concerning data, including aggregated data. Proactive compliance with rules and, in their absence, principles for the responsible management of sensitive data. Case studies.

B.9 DSCI 551 (1) Descriptive Statistics and Probability for Data Science

Fundamental concepts in probability. Statistical view of data coming from a probability distribution.

B.10 DSCI 552 (1) Statistical Inference and Computation I

The statistical and probabilistic foundations of inference, developed jointly through mathematical derivations and simulation techniques. Important distributions and large sample results. Methods for dealing with the multiple testing problem. The frequentist paradigm.

B.11 DSCI 554 (1) Experimentation and Causal Inference

Statistical evidence from randomized experiments versus observational studies. Applications of randomization, e.g., A/B testing for website optimization.

B.12 DSCI 561 (1) Regression I

Linear models for a quantitative response variable, with multiple categorical and/or quantitative predictors. Matrix formulation of linear regression. Model assessment and prediction.

B.13 DSCI 563 (1) Unsupervised Learning

How to find groups and other structure in unlabeled, possibly high dimensional data. Dimension reduction for visualization and data analysis. Clustering, association rules, model fitting via the EM algorithm.

B.14 DSCI 571 (1) Supervised Learning I

Introduction to supervised machine learning, with a focus on classification. K-NN, Decision trees, SVM, how to combine models via ensembling: boosting, bagging, random forests. Basic machine learning concepts such as generalization error and overfitting.

B.15 DSCI 572 (1) Supervised Learning II

Introduction to optimization. Gradient descent and stochastic gradient descent. Roundoff error and finite differences. Neural networks and deep learning.

B.16 DSCI 575 (1) Advanced Machine Learning

Advanced machine learning methods, with an undercurrent of natural language processing (NLP) applications. Bag of words, recommender systems, topic models, ranking, natural language as sequence data, POS tagging, CRFs for named entity recognition and RNNs for text synthesis. An introduction to popular NLP libraries in Python.

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| Faculty: Faculty of Land and Food Systems Department: Faculty Approval Date: Oct 18, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: October 11 th 2017 Contact Person: Christine Scaman Phone: 604 822 1804 Email: christine.scaman@ubc.ca |
| <p>Proposed Calendar Entry:</p> <p>First -Year Options</p> <p>The Faculty of Land and Food Systems offers two options for enrolment in the first year:</p> <ol style="list-style-type: none"> 1. The standard program in which students admitted to the Faculty design their own program according to Degree Requirements, selecting both the courses and the sections they wish to attend. 2. The Land One cohort option. Land One cohort option is jointly offered by the Faculty of Land and Food Systems and the Faculty of Forestry. In this limited-enrolment option, students admitted to their respective Faculty and degree programs enroll in a standard timetable of 15 core credits as a cohort. The standard timetable includes BIOL 121, MATH 102, LFS/FRST 101, LFS/FRST 110, and LFS/FRST 150. Additionally, students register for the remaining first-year credits according to their Degree Requirements. <p>Land One Cohort Option for the Faculty of Land and Food Systems</p> <p>Land One is a unique way for first-year Land and Food Systems students in the Bachelor of Science in Applied Biology or Bachelor of Science in Food, Nutrition and Health</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create a new calendar page at Homepage>>Faculties, Colleges, and Schools>>The Faculty of Land and Food Systems>>First Year Options</p> <p>Rationale for Proposed Change: We need a new page to describe the first year options including the Land One cohort option.</p> |

programs to begin their degrees. Students with a passion for learning in an integrated format will benefit from the program's cohort model, where complex issues related to food security, climate change, land use, and sustainability are explored through a coordinated curriculum offered in a small learning community. Jointly offered by the Faculty of Land and Food Systems (LFS) and the Faculty of Forestry, the option integrates required first-year subjects (BIOL 121, MATH 102, LFS 101, LFS 150 and LFS 110) within the context of real-world cases from both First Nations and Western perspectives. It facilitates students' transition to university and enhances the connections to their home Faculty by creating a learning community centred on collaborative engagement and learning with their peers and instructors.

Students register in a 15-credit standard timetable (STT) that consists of designated sections of BIOL 121, MATH 102, LFS 101 (all taught in the first term), LFS 150 (taught in the second term) and LFS 110 (taught over both terms).

Land One instructors teach the same course content as the standard program using examples, approaches, and case studies that relate to current issues in Land and Food Systems and Forestry through lectures, tutorials, and peer-to-peer engagement. All Land One students attend their lectures together and have access to a designated study space, creating a smaller social and learning community.

LFS 110 is an integrative seminar that discusses the connections between courses in Land One and current issues. Each week, students meet for a one-hour lecture and a one-hour tutorial session throughout both terms 1 and 2. Students work in groups to explore disciplinary and integrative approaches to cases involving both First Nations and Western perspectives. Students

also participate in field trips (e.g. to UBC farm, Malcolm Knapp Research Forest, and Museum of Anthropology) and engage in various hands-on activities.

All majors/programs in LFS allow for the Land One standard timetable to meet first-year degree requirements, however, students are responsible for meeting all remaining degree requirements in their respective program. The 15-credit standard timetable leaves space for students to take other courses in first-year and build their own program path within LFS, and across campus. Students who plan to transfer out of LFS after first-year should consult with the [Faculty Advising Office](#) responsible for the program they are interested in.

Application Process

The Land One program is limited to direct-entry students in their first-year of study in either the Bachelor of Science in Applied Biology or the Bachelor of Science in Food, Nutrition and Health. Students must be admitted to LFS in order to be eligible for the Land One cohort option. Students should consult the [Admission](#) section for details on applying to the Faculty of Land and Food Systems at UBC. As Land One integrates five courses, in addition to the Faculty's admission requirements, students must meet the pre-requisites of these courses as listed below (or the equivalent in the students' home curriculum):

- BIOL 121: Biology 11 or 12, or BIOL 111
- MATH 102: High-school calculus and one of (a) a grade of 80% or higher in BC Principles of Mathematics 12 or Pre-calculus 12, or (b) a satisfactory score in the UBC Mathematics Basic Skills Test.
- FRST/LFS 101: No pre-requisites
- FRST/LFS 150: Enrolment limited to LFS students with first year status and a minimum Language Proficiency Index

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| <p>(LPI) of 4 or equivalent. Because writing will be a significant part of the Land One option, proficiency in English is strongly recommended.</p> <ul style="list-style-type: none"> • FRST/LFS 110: No pre-requisites <p>Students must submit a separate application for the Land One program, via an online application by May 31. Students are required to submit a Letter of Intent (500 word maximum) addressing why they would like to join Land One.</p> <p>Additional information about the Land One cohort option and the application process are available on the Land One website.</p> | |
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Category: (1)

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| <p>Faculty: Faculty of Land and Food Systems Department: Faculty Approval Date: Oct 18, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: September 27, 2017 Contact Person: Christine Scaman Phone: 604 822 1804 Email: christine.scaman@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>LFS 110 (3) Land One: First-year Integrative Seminar</p> <p>Current issues and cases in Forestry and Land and Food Systems are examined with a focus on integration of first-year subjects and exposure to both Indigenous and Western perspectives. Restricted to Faculty of Land and Food Systems students in the Land One option. (Equivalency:</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change: The option integrates required first year science subjects (microeconomics (LFS 101), LFS 150, MATH 102, BIOL 121) within the context of real-world Forestry and Land and Food Systems cases. It facilitates</p> |

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| <p>FRST 110)</p> | <p>students' transition to university and enhances the connections to their home faculties (FRST & LFS) by supporting a learning community (cohort). While learning the foundational concepts of traditional first-year subjects, Land One students examine the connections between disciplines and learn current land issues from both First Nations and Western perspectives.</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only)</p> <p>Rationale for not being available for Cr/D/F: The course is required by all students in the Land One cohort and is restricted to these students.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |
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Category: (1)

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| <p>Faculty: Faculty of Land and Food Systems Department: Faculty Approval Date: Oct 18, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: September 27 2017 Contact Person: Sumeet Gulati Phone: (604) 822-2144 Email: sumeet.gulati@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>LFS 101 (3) Principles of Microeconomics with Applications to Land and Food Systems</p> <p>Microeconomic principles focused on private and social decision making related to the use of land—especially in agriculture, forestry, and conservation. Restricted to Faculty of Land and Food</p> | <p>URL: N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New course</p> <p>Rationale for Proposed Change: LFS 101 will be the introductory microeconomic course for students accepted into the first year FRST/LFS Land One cohort. This course will integrate examples specific to issues important to agriculture and forestry.</p> |

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| <p>Systems students in Land One Option. (Equivalency: FRST 101 and Econ 101; Credit will be granted for only one of FRST 101, LFS 101, ECON 101, or ECON 310)</p> | <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only)</p> <p>Rationale for not being available for Cr/D/F: The course is required by all students in the Land One cohort and restricted to these students.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |
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UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| <p>Faculty: Land and Food Systems Department: FNH Faculty Approval Date: Oct 18, 2017 Effective Session (W or S): W Effective Academic Year: 2018</p> | <p>Date: Sept 27, 2017 Contact Person: Christine Scaman Phone: 2-1804 Email: Christine.scaman@ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>Dual Degree and Minor Options</p> <p>Master of Management Dual Degree Program Option</p> <p>This dual degree program option offers qualified students the opportunity to earn, in one course of study, an undergraduate degree from the Faculty of Land and Food Systems and a Master of Management degree from the Faculty of Commerce and Business Administration (also known as the Sauder School of Business). This dual degree program option can be completed in four and one half years through intensive study and scheduling that includes one summer following fourth year. The Business Career Centre in the Sauder School of Business will also provide extensive professional development and career preparation throughout the dual degree program option of study.</p> <p>Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do the Master of Management through the</p> | <p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,909,0 Present Calendar Entry:</p> <p>Dual Degree and Minor Options</p> <p>Master of Management Dual Degree Program Option</p> <p>This dual degree program option offers qualified students the opportunity to earn, in one course of study, an undergraduate degree from the Faculty of Land and Food Systems and a Master of Management degree from the Faculty of Commerce and Business Administration (also known as the Sauder School of Business). This dual degree program option can be completed in four and one half years through intensive study and scheduling that includes one summer following fourth year. The Business Career Centre in the Sauder School of Business will also provide extensive professional development and career preparation throughout the dual degree program option of study.</p> <p>Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do the Master of Management through the dual degree route.</p> |

dual degree route.

Students admitted into this program can use COMM 120 (3), COMM 220 (3) towards their unrestricted elective requirement and COMM 320 (1.5), COMM 321 (1.5), COMM 420 (1.5), and COMM 421 (1.5) towards their restricted elective requirement.

Students who are in the Food Market Analysis Major as part of the Dual Degree Program Option cannot take COMM 329, COMM 398, COMM 457, COMM 458, COMM 465, COMM 473 or COMM 493, due to significant content overlap with the Masters of Management required courses.

Additional specialized [fees](#) for the Master of Management will be paid by all students admitted into the dual degree program option. For further information on this dual degree program option see the [Faculty of Commerce and Business Administration](#) section of the Academic Calendar.

Minor Options

The Faculty of Land and Food Systems offers several minor options for students. Some minors are restricted to specific programs. For details please refer to the minor specific content below. Enrolment in a Minor is limited to students eligible for third-year standing with an average of at least 68% in each of the previous two years. Meeting the stated minimum requirements does not guarantee admission into the Minor.

An acceptable Minor must consist of 18 upper-level credits. Students should design a coherent and academically sound

Students admitted into this program can use COMM 120 (3), COMM 220 (3) towards their unrestricted elective requirement and COMM 320 (1.5), COMM 321 (1.5), COMM 420 (1.5), and COMM 421 (1.5) towards their restricted elective requirement.

Students who are in the Food Market Analysis Major as part of the Dual Degree Program Option cannot take COMM 329, COMM 398, COMM 457, COMM 458, COMM 465, COMM 473 or COMM 493, due to significant content overlap with the Masters of Management required courses.

Additional specialized [fees](#) for the Master of Management will be paid by all students admitted into the dual degree program option. For further information on this dual degree program option see the [Faculty of Commerce and Business Administration](#) section of the Academic Calendar.

course of studies for their Minor, which must be submitted at the time of application. For guidelines on appropriate course selection, please refer to the minor specific content below. Students with questions should consult with an Academic Advisor in LFS Student Services.

Application forms for minors may be obtained from the [Land and Food Systems website](#). Completed applications must be submitted no later than March 31st of the students' second year.

Of the 18 credits required for the minor, a maximum of 6 can be double-counted towards the elective requirements of the major. Therefore students should be prepared to complete 12 credits in addition to those required of their major.

Continuation in a Minor requires that the student maintain **Good Academic Standing**. In addition, space in many courses is limited. Admission to a Minor does not guarantee access to courses agreed upon for the Minor. Where space in courses required for a Minor is limited, a sessional average substantially higher than the minimum for **Good Academic Standing** may be required to enable registration in such courses. Students who wish to pursue a Minor should be aware of the prerequisites of many of the upper-level courses.

Students might encounter difficulty fitting the courses for the Minor into their program timetable; careful planning is essential, and completion of the Minor will usually require an additional period of study beyond four years

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| <p>Minor in Arts</p> <p>An acceptable Arts Minor must comprise courses in the Faculty of Arts that are for credit toward a Bachelor of Arts degree and must consist of 18 upper-level credits in a single subject or field of specialization.</p> <p>All courses must be acceptable for a B.A. major in the proposed subject area or field, although the student is not bound by other requirements of the Faculty of Arts. Upon successful completion of the minor, the notation "Minor in Arts" will be added to the student's transcript.</p> <p>Students wanting a subject-specific minor may also undertake a minor in a specific Arts discipline's minor, which requires the completion of at least 30 credits in a single subject field of specialization, of which at least 18 credits must be numbered 300 or higher. Upon successful completion, the notation "Minor in [Subject-specific]" will be denoted on the student's transcript.</p> <p>Space in many Arts courses is limited. Admission to an Arts Minor does not provide priority access to courses agreed upon for the Minor.</p> | <p>Minor in Arts</p> <p>Enrolment in the Arts Minor Program is limited to students eligible for third-year standing with an average of at least 68% in each of the previous two years.</p> <p>An acceptable minor program must comprise courses in the Faculty of Arts that are for credit toward a Bachelor of Arts degree and must consist of 18 upper-level credits in a single subject or field of specialization. Students should design a coherent and academically sound course of studies for their, which must be approved by the Land and Food Systems Student Services office at the beginning of third year.</p> <p>All courses must be acceptable for a B.A. major in the proposed subject area or field, although the student is not bound by other requirements of the Faculty of Arts.</p> <p>Students enrolled in an Arts Minor are allowed to double count a limited number of credits. The minor may contain 6 upper-level credits that are also counted toward the elective requirements of the major.</p> <p>Application forms may be obtained from the Student Services office or from the Land and Food Systems website. Completed applications must be returned no later than March 31st.</p> <p>Continuation in the Minor requires that the student maintain <u>Passing Year Standing</u>. In addition,space in many courses is limited-Admission to an Arts Minor does not guarantee access to courses agreed upon for the Minor. Where space in</p> |
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| <p>Minor in Commerce</p> <p>Students wanting a foundation in business management are encouraged to consider the Minor in Commerce. Enrolment in this minor is limited.</p> | <p>courses required for the Minor is limited, a sessional average substantially higher than the minimum for Passing Year Standing may be required to enable registration in such courses. Students who wish to pursue a Minor in Arts should be aware of the prerequisites of many of the upper-level Arts courses.</p> <p>Upon successful completion of the minor program, the notation "Minor in Arts" will be added to the student's transcript.</p> <p>Students wanting a subject-specific minor may also undertake a minor in a specific Arts discipline's minor program, which requires the completion of at least 30 credits in a single subject field of specialization, of which at least 18 credits must be numbered 300 or higher.</p> <p>Students might encounter difficulty fitting the courses for the Minor into their program timetable; careful planning is essential, and completion of the Minor program might require an addition period of study beyond the usual four years.</p> <p>Minor in Commerce</p> <p>Students wanting a foundation in business management are encouraged to consider the Minor in Commerce. Enrolment in this program is strictly limited. An application for admission can be obtained from Student Services, Faculty of Land and Food Systems. The completed form must be returned by March 31st.</p> <p>For an application to be considered, the student must be eligible for at least</p> |
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| <p>Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do a Commerce Minor.</p> <p>Due to the significant overlap in coursework, students in the Food Market Analysis Major are not normally permitted to complete a Commerce Minor.</p> <p>Applicants must have successfully completed one of MATH 100, 102, 104, 110, 120, 180, or 184 and both of ECON 310 and 311 (or 101 and 102) to apply. In addition, a statement of intent is required as part of the application.</p> <p>The Minor will consist of COMM 329 (3), COMM 457 (3), COMM 465 (3), COMM 473 (3), COMM 493 (3), and one of COMM 398 (3) or COMM 458 (3) for a total of 18 credits.</p> <p>Upon successful completion, the notation "Minor in Commerce" will be placed on the student's transcript.</p> <p>Minor in Fermentations</p> <p>Courses from both the UBC Vancouver and Okanagan campuses can be used to</p> | <p>second year standing in the Faculty of Land and Food Systems with an average of at least 60% in the previous year.</p> <p>Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do a Commerce Minor.</p> <p>Due to the significant overlap in coursework, students in the Food Market Analysis Major are not normally permitted to complete a Commerce Minor.</p> <p>Students enrolled in a Commerce Minor are allowed to double-count a limited number of credits. The minor may contain 6 upper level credits that are also counted toward the electives required for the major.</p> <p>Applicants must have successfully completed one of MATH 100, 102, 104, 110, 120, 180, or 184 and both of ECON 310 and 311 (or 101 and 102).</p> <p>The program will consist of COMM 329 (3), COMM 457 (3), COMM 465 (3), COMM 473 (3), COMM 493 (3), and one of COMM 398 (3) or COMM 458 (3) for a total of 18 credits.</p> <p>Upon successful completion of this program, the notation "Minor in Commerce" will be placed on the student's transcript.</p> |
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complete the Fermentations minor. Students interested in applying credits earned at the Okanagan campus to Vancouver campus programs should be aware of the [Requirements to Receive a Degree or Diploma on the Vancouver campus](#).

An acceptable minor must comprise

1. At least 3 credits of the following courses:

FNH 405 (UBC Vancouver) or BIOL 380 (UBC Okanagan)

2. One of BIOC 302 (UBC Vancouver); BIOL 311 or BIOC 304 (UBC Okanagan)

3. At least 6 credits of the following courses:

FNH 330, FNH 335 (UBC Vancouver); BIOC 307, BIOC 408 (UBC Okanagan)

4. At least 6 credits from the following courses:

BIOL 323, CHEM 311, CHBE 381, FNH 300, FNH 301, FNH 302, FNH 313, FNH 413, FNH 415; APBI 442 from UBC Vancouver; BIOC 310, BIOL 382, BIOL 480 from UBC Okanagan.

Upon successful completion of the Minor, the notation "Minor in Fermentations" will be denoted on the student's transcript.

Minor in Kinesiology

Only students enrolled in the Bachelor of Science in Food, Nutrition, and Health degree may undertake a Minor in Kinesiology. Enrollment in this minor is limited.

Due to the fixed scheduling requirements of the Dietetics Major, it is typically not possible for students in this major to do a Kinesiology Minor.

Admission to the minor is competitive and will be based on a cumulative grade-point average of 54 credits of required first- and second-year courses for the Bachelor of Science in Food, Nutrition, and Health degree.

The Kinesiology Minor will consist of 18 credits selected from the following: KIN 303, 351, 353, 361, **366**, 373, 375, **390**, **425**, 461, **462**, 464, 469, 471, and **473**.

Students who wish to pursue a Minor in Kinesiology should be aware of the 300-level prerequisites for 400-level Kinesiology courses. 100- and 200-level prerequisites for KIN courses may be waived for students taking the minor, **however students are required to take either BIOL 155, BIOL 153, CAPS 301 or KIN 190 and 191 in lieu of the KIN course prerequisites.** Space in many Kinesiology courses is limited.

Upon successful completion of this minor, the notation "Minor in Kinesiology" will be placed on the student's transcript.

Students who wish to pursue studies in the Faculty of Education should be aware that courses that are acceptable for a Kinesiology Minor might not necessarily meet the requirements for a teaching concentration in the Faculty of Education. Students planning to enter the Teacher Education Program in the [Faculty of Education](http://www.calendar.ubc.ca/vancouver/i)

[<http://www.calendar.ubc.ca/vancouver/i](http://www.calendar.ubc.ca/vancouver/i)

[index.cfm?tree=12,202,320,157](#) > need to review the detailed admission requirements.

Minor in Science

An acceptable Science Minor must comprise courses in the Faculty of Science that are for credit towards a Bachelor of Science degree and consist of at least 18 credits numbered 300 or higher in a single subject (see [Biochemistry](#), [Chemistry](#), [Environmental Sciences](#), and [Oceanography Minor](#) listings for exceptions).

Minor in Science

~~Enrolment in the Science Minor Program is limited to students eligible for third-year standing with an average of at least 68% in each of the previous two years.~~

An acceptable ~~minor program~~ must comprise courses in the Faculty of Science that are for credit towards a Bachelor of Science degree and consist of at least 18 credits numbered 300 or higher in a single subject (see [Biochemistry](#), [Chemistry](#), [Environmental Sciences](#), and [Oceanography Minor](#) listings for exceptions). ~~Students should design a coherent and academically sound course of studies for their proposed minor, which must be approved by the Land and Food Systems Student Services office at the beginning of third year.~~

~~Students enrolled in a Science Minor are allowed to double-count a limited number of credits. The minor may contain 6 upper-level credits that are also counted toward the elective requirements of the major.~~

~~Application forms may be obtained from the [Land and Food Systems website](#). Completed applications must be returned no later than March 31st of the students' second year.~~

~~Continuation in the Minor requires that the student maintain [Passing Year Standing](#). Where space in courses required for the Minor is limited, students may be required to maintain a sessional average higher than the minimum for [Passing Year Standing](#). Students who wish to pursue a Minor in Science should be aware of the~~

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| <p>Upon successful completion of the Minor, the notation “Minor in [Subject]” will be denoted on the student’s transcript.</p> | <p>prerequisites of many of the upper-level Science courses. Space in many courses is limited. Admission to a Science Minor does not guarantee access to courses agreed upon for the minor.</p> <p>Upon successful completion of the Minor program, the notation “Minor in [Subject]” will be denoted on the student’s transcript.</p> <p>Students might encounter difficulty fitting the courses for the Minor into their program timetable; careful planning is essential, and completion of the Minor program might require an additional period of study beyond the usual four years.</p> <p>Type of Action:</p> <ul style="list-style-type: none"> • Additional information added to the Dual Degree Masters of Management option • Create an introductory section that lists common information relevant to all minors. • Remove this common information from all current minor listings • Editorial corrections • Addition of a new Fermentation minor option • Move information on Kinesiology Minors from http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,194,261,10 to this page. • Update course options to current Kin minor (in bold) • Update the current Kin minor description <p>Rationale for Proposed Change:</p> <ul style="list-style-type: none"> • The AMS passed a referendum in 2014 to fund the building of a fermentation lab. The Faculty of Land and Food Systems is working with the AMS to develop both the physical facility, and the curriculum to support student and community activities in the lab. The fermentation minor is one part |
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| | <p>of this curriculum. Courses from both UBC Okanagan and UBC Vancouver are included to provide the opportunity for students to experience both campuses.</p> <ul style="list-style-type: none">• Students admitted into the Kin minor can have the prerequisites waived, however they do need to meet the prerequisites some other way, and these are the courses we'll accept• Update the KIN courses available for this minor was needed to reflect courses that are being offered and acceptable. |
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UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| Faculty: Land and Food Systems Department: Faculty Approval Date: Oct 18, 2017 Effective Session (W or S): W Effective Academic Year: 2018 | Date: September 5, 2017 Contact Person: Sandra Brown Phone: 604-822-5965 Email: sandra.brown@ubc.ca | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed Calendar Entry: <div style="background-color: yellow; padding: 5px;">Sustainable Agriculture and Environment Major</div> <p>The Sustainable Agriculture and Environment major focuses on the application of soil, plant and agro-ecological sciences to enhance the sustainable production of food, and other agricultural products, while simultaneously conserving land and enhancing ecological services. Students can tailor their learning experiences to specific interests in agricultural production, integrated agro-ecosystem management, plant science, or soil science. A core resource of the program is the Centre for Sustainable Food Systems at the UBC Farm where students gain hands-on experience within a diverse managed landscape.</p> <div style="background-color: yellow; padding: 5px;">Degree Requirements</div> <p>First year:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 80%;">LFS 100</td><td style="width: 20%; text-align: right;">1</td></tr> <tr><td>LFS 150 or ENGL 112</td><td style="text-align: right;">3</td></tr> <tr><td>BIOL 112 & 121</td><td style="text-align: right;">6</td></tr> <tr><td>BIOL 140</td><td style="text-align: right;">2</td></tr> <tr><td>CHEM 121 (or 111)¹</td><td style="text-align: right;">4</td></tr> <tr><td>CHEM 123</td><td style="text-align: right;">4</td></tr> <tr><td>MATH 102 or equivalent²</td><td style="text-align: right;">3</td></tr> <tr><td>Phys 101, 107 or 117³</td><td style="text-align: right;">3</td></tr> <tr><td>Restricted electives⁴</td><td style="text-align: right;">3</td></tr> <tr><td>Unrestricted elective</td><td style="text-align: right;">3</td></tr> <tr><td>Total Credits</td><td style="text-align: right;">32</td></tr> </table> <p>Second year:</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 80%;">LFS 250</td><td style="width: 20%; text-align: right;">6</td></tr> <tr><td>LFS 252</td><td style="text-align: right;">3</td></tr> <tr><td>(or FRST 231 or BIOL 300 or STAT 200)</td><td style="text-align: right;">3</td></tr> </table> | LFS 100 | 1 | LFS 150 or ENGL 112 | 3 | BIOL 112 & 121 | 6 | BIOL 140 | 2 | CHEM 121 (or 111)¹ | 4 | CHEM 123 | 4 | MATH 102 or equivalent ² | 3 | Phys 101, 107 or 117³ | 3 | Restricted electives ⁴ | 3 | Unrestricted elective | 3 | Total Credits | 32 | LFS 250 | 6 | LFS 252 | 3 | (or FRST 231 or BIOL 300 or STAT 200) | 3 | URL: N/A <i>[please create a calendar page]</i> Present Calendar Entry: N/A Type of Action: New calendar URL / page Revise name, description, and requirements for Food and Environment Major Rationale for Proposed Change: <p>Information for each APBI major will appear on an individual page to provide consistency in the way that information is displayed for all programs and provide clearer navigation for students.</p> <p>Based on similarities in the learning objectives and program descriptions between the two existing majors (Food and Environment Major; Applied Plant and Soil Major), and given limited Faculty resources and low enrolment in both majors and some associated APBI courses, we are renaming and revising the Food and Environment major to Sustainable Agriculture and Environment Major.</p> <p>First year courses in this revised major have been adjusted to align with the Applied Animal Biology major, for consistency of all students in the APBI program.</p> <p>Restricted electives have been identified into potential streams with a common focus and will be listed on the Faculty website for students.</p> <p>An Honours option has been added for students who desire more rigour in their program</p> |
| LFS 100 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LFS 150 or ENGL 112 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BIOL 112 & 121 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BIOL 140 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHEM 121 (or 111)¹ | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHEM 123 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MATH 102 or equivalent ² | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phys 101, 107 or 117³ | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Restricted electives ⁴ | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Unrestricted elective | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Credits | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LFS 250 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LFS 252 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (or FRST 231 or BIOL 300 or STAT 200) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| APBI 200 | 3 | |
| APBI 210 | 4 | |
| APBI 244 | 3 | |
| APBI 260 | 6 | |
| BIOL 200 | 3 | |
| Restricted electives ⁴ | 3 | |
| Total Credits | 31 | |
| Third year: | | |
| LFS 350 | 3 | |
| APBI 327 or APBI 328 | 3 or 4 | |
| APBI 351 | 3 | |
| APBI 360 | 3 | |
| ECON 310⁵ | 3 | |
| Restricted electives ⁴ | 9 | |
| Unrestricted elective | 3 | |
| Total Credits | 30 or 31 | |
| Fourth year: | | |
| APBI 402 | 3 | |
| APBI 460 or LFS 450 | 3 | |
| Restricted electives ⁴ | 18 | |
| Unrestricted elective | 6 | |
| Total Credits | 30 | |
| Overall four-year total ^{6,7} | 123 or 124 | |
| ¹ Note CHEM 111 is not for students with Chemistry 12. | | |
| ² Students who have not completed Calculus 12 must take MATH 180 or 184 to fulfill their first year Math requirement. | | |
| ³ Students without credit for Physics 12 must take PHYS 100 before taking other 100-level PHYS courses. | | |
| ⁴ To be selected from Restricted Electives list in consultation with a program advisor. | | |
| ⁵ Credit will be given for only one of ECON 310 or ECON 101. | | |
| ⁶ A minimum of 45 credits of the 123 or 124 credits required for the Major must be for courses numbered 300 or higher. | | |
| ⁷ Students may present more than the required total credits depending on electives selected | | |
| Sustainable Agriculture and Environment Honours | | |

Option

The Sustainable Agriculture and Environment Honours option is intended for exceptional students with an interest in research. Students interested in careers in research-intensive areas or future graduate studies will benefit from this opportunity.

Admission

This option will only accept students with both a strong academic record during their first and second years of study, and an interest in research. A minimum cumulative average of 75% is required for admission to the Honours option.

Application

The applicant must write a letter explaining why they wish to enroll, their career goals, and any past or current research experience they may have. The applicant's request and Letter of Intent must be submitted to LFS Student Services by March 31 of their second year of study.

Successful applications admitted into the Honours Option must complete a minimum of 132 credits rather than the 123 credits required to graduate with a Sustainable Agriculture and Environment degree. Of these 132 credits, 48 must be chosen from the Sustainable Agriculture and Environment restricted electives list in consultation with a program advisor. Students must complete their degree within a maximum of 5 calendar years. During the third and fourth years, Honours students must not fail any attempted courses, must complete a minimum of 30 credits per calendar year, and maintain a minimum of 70% in every 300 and 400 level course completed. Students who do not meet these requirements will move to the Sustainable Agriculture and Environment Major, and will no longer be eligible to stay in the Honours option.

Required courses:

- APBI 398 (3 credits) – Research Methods in Applied Biology
- APB 499 (6 credits) – Thesis

APBI 499 Thesis Course

During the third year of study, students must contact a prospective supervisor for the APBI 499 thesis course to

discuss possible thesis topics. A thesis application/proposal form must be filled out by the student and approved by the prospective supervisor before the end of the fall semester of the year prior to the year in which the thesis is to be completed.

Completion of the 6-credit thesis course (APBI 499) will occur during the entire fourth year of study. Students will complete a research project and write up a thesis. At the end of the year, each student will present their work to other third and fourth year Honours students.

Benefits of a Thesis

The APBI 499 thesis course gives students an opportunity to work closely with a supervisor or faculty member and work with material at an advanced level. This experience will give students an idea of what it is like to work at the graduate level, working on a single topic over many months. The thesis will also provide experience in academic writing and communications.

Benefits of the Honours Option

Graduates of the option will have:

1. demonstrated their ability to succeed in a challenging program of study,
2. gained exposure to a wide variety of topics in sustainable agriculture and environment,
3. in-depth experience in one or more areas of research,
4. worked closely with faculty members and other researchers,
5. gained skills in independent research and oral and written communication useful for a wide range of professional careers.

UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

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| <p>Faculty: Land and Food Systems Department: Global Resource Systems Faculty Approval Date: Oct 18, 2017 Effective Session (W or S) W Effective Academic Year: 2018</p> | <p>Date: May 12, 2017 Contact Person: L.M. Lavkulich Phone: 2-3477 Email: lml@mail.ubc.ca</p> |
| <p>Proposed Calendar Entry:</p> <p>GRS 300 (3) Global Water and Energy Nexus Energy water nexus for sustaining ecological goods and services, and food security; significance in global resource systems.</p> <p>Prerequisite: One of CHEM 111, CHEM 121, and one of BIOL 112, BIOL 121, BIOL 140.</p> | <p>URL:N/A</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: New Course</p> <p>Rationale for Proposed Change: The Global Resource Systems program attracts an international undergraduate subscription. There have been numerous discussions, often initiated by students, about the global issues associated with equitable energy and global water. There is no undergraduate course available that focusses on these two critical and vital resources and specifically the essential nexus. Although the course is intended for the GRS students, it will be available to the wider University community.</p> <p><input type="checkbox"/> Not available for Cr/D/F grading (undergraduate courses only) (Check the box if the course is NOT eligible for Cr/D/F grading and provide the rationale for this below. Note: Not applicable to graduate-level courses.)</p> <p>Rationale for not being available for Cr/D/F: The default is that undergraduate courses are offered for Cr/D/F unless there is a significant reason as to why it should not be so.</p> <p><input type="checkbox"/> Pass/Fail or <input type="checkbox"/> Honours/Pass/Fail grading (Check one of the above boxes if the course will be graded on a P/F or H/P/F basis. Default grading is percentage.)</p> |



28 February 2018

To: Vancouver Senate
From: Senate Curriculum Committee
Re: February Tec de Monterrey Certificate Proposals (information)

Please find attached the following certificate programs for your information:

Certificate in General Business I

Certificate in Advanced General Business

Certificate in International Business and Strategic Management

Certificate in Marketing

Certificate in Operations and Logistics

Certificate in Agri-Food Biotechnology

Certificate in Food, Nutrition, and Health

Certificate in Food Market Analysis

Certificate in Sustainable Agriculture

Certificate in Food and Resource Economics

Respectfully submitted,

Dr. Peter Marshall, Chair

Senate Curriculum Committee

UBC Sauder School of Business – Tec de Monterrey Credit Certificate Proposal

Proposed Certificate Programs:

1. Certificate in General Business 1 (*for Engineering students*)
2. Certificate in Advanced General Business (*for Business students*)
3. Certificate in International Business and Strategic Management
4. Certificate in Marketing
5. Certificate in Operations and Logistics

Date of Submission:

2017 Dec 14; Approved by Faculty of Commerce 2017 Dec 8

Sponsoring Faculty:

Commerce and Business Administration

Contact Person:

Name: Dr. Kin Lo

Title: Senior Associate Dean, Students

Telephone: 604-822-8430

Email: kin.lo@sauder.ubc.ca

Supporting UBC Partners or External Partners:

Tec de Monterrey

Description

Since 1996, Tec de Monterrey and UBC have collaborated on a wide variety of initiatives for student mobility, as well as joint teaching and research. Both institutions consider the Tec-UBC Joint Academic Program, founded with the signing of the “Academic Joint Program and Facility Joint Venture Agreement” in July 2001, to be the flagship initiative.

The partnership brings diversity to each campus, allows for the creation of innovative programs, including the piloting of new mobility and experiential learning initiatives, and brings revenue into participating faculties and supporting central program units such as Go Global.

Under this inbound study abroad program, Tec students take UBC undergraduate courses for one or two terms on a fee-paying basis. Since 2001 students have had the option of obtaining a non-credit Certificate of Specialty upon completion of 5 credit courses, or 15 credits.

Rationale

These certificate programs were created in the summer of 2001 to give additional incentive, recognition, and a competitive edge to Tec de Monterrey students taking UBC courses under the Joint Academic Program. Students finish their semester or year of

study with a recognition of an academic specialization, whether in their field of study, or as demonstration of competency in an additional area of study.

Tec Program Directors and professors met with UBC professors in 2001 to map out the certificate programs in order to ensure alignment with the Tec curriculum and determine course equivalencies.

Length & Duration

Each certificate requires the completion of 5 existing UBC credit courses, or 15 credits. Certificates are completed within two terms.

Curriculum Topics by Certificate

For each certificate, students must take 15 credits which includes a mix of required and elective courses as noted below. Courses are 3 credits each unless otherwise noted.

1. Certificate in General Business 1 (*for Engineering students*)

Prerequisites

Visiting students must have completed the equivalent of the following prior to their studies at UBC:

- A university level writing class in English
- Principles of Microeconomics (ECON 101 or ECON 310)
- Principles of Macroeconomics (ECON 102 or ECON 311)
- Differential Calculus (MATH 100, 102, 104, 110, 120, 180, or 184)

Required Courses*

| | |
|----------|---|
| COMM 329 | Principles of Organizational Behaviour |
| COMM 398 | Introduction to Business Processes and Operations |
| COMM 457 | Fundamentals of Financial Accounting |
| COMM 465 | Marketing Management |
| COMM 473 | Business Finance |

* Students who have previously completed the equivalent of COMM 457 may take instead COMM 458-Fundamentals of Managerial Accounting. Students who have previously completed one of the other four courses may instead take COMM 493-Strategic Management in Business.

2. Certificate in Advanced General Business (*for Business students*)

Note

This is an advanced certificate. Students attempting this certificate and/or 400 level Commerce courses at UBC must be starting the 6th semester of their Tec program while attending UBC.

Requirements:

One course from:

| | |
|----------|-----------------------------------|
| COMM 491 | Strategic Management |
| COMM 497 | New Enterprise Development |
| COMM 498 | International Business Management |

Two courses from:

| | |
|-----------|--|
| COMM 386A | Topics in Business III – Business Ethics |
| COMM 386D | Topics in Business III – Innovation Leadership |
| COMM 386I | Topics in Business III – Innovation and Sustainability |
| COMM 386J | Topics in Business III – Responsible Business Strategy |
| COMM 389 | Creativity in Business |
| COMM 464 | Digital Marketing |

| | |
|------------|---|
| COMM 484 | Sustainability Marketing |
| COMM 485 | Social Entrepreneurship |
| COMM 486H* | Special Topics in Business – Advanced Topics in Investment Management |
| COMM 486N | Special Topics in Business – CIO Strategies |

Any 6-credit combination from one the following 10 subject areas:

Accounting: Financial*

| | |
|--------------|--------------------------------------|
| COMM 353 and | Intermediate Financial Accounting I |
| COMM 450 | Intermediate Financial Accounting II |

Accounting: Managerial*

| | |
|--------------|--|
| COMM 354 and | Cost Accounting |
| COMM 454 | Accounting for Management Control and Incentives |

Business Technology Management

| | |
|--------------|--|
| COMM 335 and | Information Systems Technology and Development |
| COMM 436 | Information Systems Analysis and Design |

Entrepreneurship

Any 6 credits of [Entrepreneurship option courses](#)

Finance*

| | |
|------------------------|---|
| COMM 370 and One of | Corporate Finance |
| COMM 471 | Mergers and Acquisitions |
| COMM 486Q | Special Topics in Business – Advanced Topics in Corporate Finance |

Marketing: Customer Relations

| | |
|------------------------|------------------------------------|
| COMM 362 and One of | Consumer Behaviour |
| COMM 461 | Business Development |
| COMM 462 | Integrated Marketing Communication |

Marketing and Strategy

| | |
|------------------------|--------------------------|
| One of | |
| COMM 363 | Marketing Analysis |
| COMM 365 and One of | Market Research |
| COMM 464 | Digital Marketing |
| COMM 467 | Brand Management |
| COMM 469 | International Marketing |
| COMM 484 | Sustainability Marketing |
| COMM 486I | Pricing |

Operations and Logistics

| | |
|--------------|--|
| COMM 443 and | |
| COMM 449 | |

Organizational Behaviour and Human Resources

Any 6 credits of [COHR Courses](#). Note that some COHR courses are 1.5 credits.

Real Estate

| | |
|------------------------|-------------------------|
| COMM 307 and One of | Real Estate Investment |
| COMM 405 | Real Estate Finance |
| COMM 407 | Real Estate Economics |
| COMM 408 | Real Estate Development |

* Students choosing to complete upper level finance or accounting courses at UBC must have their course selections approved by a Commerce advisor.

**3. Certificate in International Business and Strategic Management
(for information)**

Required Courses

| Course | Description | Pre-requisites |
|----------|-----------------------------------|----------------|
| COMM 491 | Strategic Management | |
| COMM 498 | International Business Management | |

Elective Courses (Choose 3 courses)*

| Course | Description | Pre-requisites |
|----------|---|--|
| COMM 445 | Maritime and International Transportation | |
| COMM 469 | International Marketing | COMM 296 - Introduction to Marketing |
| ECON 345 | Money and Banking | |
| ECON 355 | International Trade | |
| ECON 356 | International Finance | |

4. Certificate in Marketing (for information only)**Required Courses**

| Course | Description | Pre-requisites |
|----------|--------------------|--|
| COMM 362 | Consumer Behaviour | COMM 296 - Introduction to Marketing |
| COMM 363 | Marketing Analysis | COMM 296 - Introduction to Marketing |
| COMM 365 | Market Research | COMM 290 - Introduction to Quantitative Decision Making, COMM 291 - Application of Statistics in Business, COMM 295 - Managerial Economics & COMM 296 - Introduction to Marketing |

Elective Courses (Choose 2 courses)*

| Course | Description | Pre-requisites |
|-----------|---------------------------------|--|
| COMM 460 | Social and Non-profit Marketing | |
| COMM 461 | Sales Management | COMM 362 - Buyer Behaviour |
| COMM 462 | Integrated Sales Management | COMM 362 - Buyer Behaviour |
| COMM 464 | Digital Marketing | COMM 296 - Introduction to Marketing |
| COMM 467 | Brand Management | COMM 296 - Introduction to Marketing |
| COMM 469 | International Marketing | COMM 296 - Introduction to Marketing |
| COMM 486F | Sustainability Marketing | |
| COMM 389 | Creativity in Business | |

5. Certificate in Operations and Logistics (for information only)**Required Courses**

| Course | Description | Pre-requisites |
|----------|-------------------------------------|---|
| COMM 204 | Logistics and Operations Management | COMM 290 Introduction to Quantitative Decision Making & COMM 291 Application of Statistics in Business |
| COMM 443 | Service Operations | COMM 204 Logistics and Operations Management |
| COMM 449 | Supply-Chain Management | COMM 204 Logistics and Operations Management |

Elective Courses (Choose 2 courses)*

| Course | Description | Pre-requisites & Co-requisites |
|----------|---|--|
| COMM 414 | Data Visualization and Business Analytics | COMM 295 Managerial Economics |
| COMM 415 | Quantitative Policy Analysis | COMM 295 Managerial Economics |
| COMM 444 | Air Transportation | COMM 295 Managerial Economics |
| COMM 445 | Maritime and International Transportation | COMM 295 Managerial Economics |
| COMM 446 | Transportation Economics | COMM 295 Managerial Economics |
| COMM 447 | Applied Project Management | COMM 295 Managerial Economics |
| COMM 448 | Business Logistics and Logistic Services Management | COMM 204 Logistics and Operations Management |

Target learners

These certificates are only open to those who apply and are nominated by their Tec de Monterrey International Programs Office under the Tec-UBC Joint Academic Program.

Student Admission Criteria

Go Global admits Tec de Monterrey students based on the minimum academic requirements enumerated below, as well as their program of study.

Applicants are required to:

- Have a minimum 83% GPA at Tec
- Have a minimum TOEFL score of 580 (ITP) or 90 (IBT)
- Students can apply in their 3rd semester of their program at Tec to begin study at UBC in the 4th semester or later. However, certain certificates and courses have additional pre-requisites. For example, students intending to complete the business certificates in Operations & Logistics must have completed their 5th semester at Tec before coming to UBC. Some certificates may require students to be in their 5th, 6th or 7th semester.

Program Delivery Format

All courses are delivered face-to-face.

Marketing / promotion strategy

N/A – these certificates are only available to Tec students in the Joint Academic Program.

Assessment of impact on departmental and university resources

There is no anticipated impact on departmental or university resources. Certificate courses are regular undergraduate courses with a limited number of spots reserved for Tec de Monterrey students.

Assessment of financial viability

Presently, financial information is not tracked for individual certificate programs. Existing data includes revenue from students taking courses in both certificate and non-certificate programs. However, the existence of the certificate programs has not imposed any significant costs on the Faculty, and no changes that would increase their cost are proposed or anticipated. Accordingly, the certificate programs are expected to remain financially viable.

| | Student Participation | | | | | |
|---|-----------------------|---------|---------|---------|---------|---------|
| | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
| General Business 1 (for Engineering students)* | -- | -- | -- | -- | -- | -- |
| Advanced General Business (for Business students)* | -- | -- | -- | -- | -- | -- |
| International Business and Strategic Management | 6 | 5 | 9 | 3 | 1 | 7 |
| Marketing | 2 | 3 | 2 | 4 | 2 | 3 |

| | | | | | | |
|--------------------------|----|----|----|----|---|----|
| Operations and Logistics | 10 | 8 | 4 | 12 | 6 | 7 |
| Total | 18 | 16 | 15 | 19 | 9 | 17 |

* *Proposed*

Fees

As per the 2015 amendment to the “Academic Joint Program and Facility Joint Venture Agreement”, students pay 70% of the ISI international tuition fees. No additional fees are collected from students undertaking a certificate, nor is there a separate admissions process at UBC.

Advisory Committee

Currently, the Tec de Monterrey partnership is overseen by a Go Global Advisor, under the direction of the Director of Go Global: International Learning Programs. The Advisor consults with Faculty designates as required.

The Faculty designates have discussed re-instating the Advisory Committee as originally laid out in the 2001 Joint Academic Program Agreement. This committee would include:

- Director, Go Global: International Learning Programs
- Advisor, Tec de Monterrey Partnership, Go Global: International Learning Programs
- Faculty of Applied Science, Associate Dean
- Faculty of Arts, Associate Dean
- Faculty of Land and Food Systems, Associate Dean
- Faculty of Commerce and Business Administration, Senior Associate Dean

UBC Faculty of Land and Food Systems – Tec de Monterrey Credit Certificate Proposal

Proposed Certificate Programs:

1. Certificate in Agri-Food Biotechnology
2. Certificate in Food, Nutrition, and Health
3. Certificate in Food Market Analysis
4. Certificate in Sustainable Agriculture
5. Certificate in Food and Resource Economics

Date of Submission:

Oct 12, 2017

Sponsoring Faculty:

Faculty of Land and Food Systems

Contact Person:

Name: Dr. Christine Scaman

Title: Associate Dean, Academic, Faculty of Land and Food Systems

Telephone: 604-822-1804

Email: christine.scaman@ubc.ca

Supporting UBC Partners or External Partners:

Tec de Monterrey

Description

Since 1996, Tec de Monterrey and UBC have collaborated on a wide variety of initiatives for student mobility, as well as joint teaching and research. Both institutions consider the Tec-UBC Joint Academic Program, founded with the signing of the “Academic Joint Program and Facility Joint Venture Agreement” in July 2001, to be the flagship initiative.

The partnership brings diversity to each campus, allows for the creation of innovative programs, including the piloting of new mobility and experiential learning initiatives, and brings revenue into participating faculties and supporting central program units such as Go Global.

Under this inbound study abroad program, Tec students take UBC undergraduate courses for one or two terms on a fee-paying basis. Since 2001 students have had the option of obtaining a non-credit Certificate of Specialty upon completion of 5 credit courses, or 15 credits.

Rationale

These certificate programs were created in the summer of 2001 to give additional incentive, recognition, and a competitive edge to Tec de Monterrey students taking UBC courses under the Joint Academic Program. Students finish their semester or year of study with a recognition of an academic specialization, whether in their field of study, or as demonstration of competency in an additional area of study.

Tec Program Directors and professors met with UBC professors in 2001 to map out the certificate programs in order to ensure alignment with the Tec curriculum and determine course equivalencies.

Length & Duration

Each certificate requires the completion of 5 existing UBC credit courses, or 15 credits. Certificates are completed within two terms.

Curriculum Topics by Certificate

For each certificate, students can choose any 5 courses from the lists noted below.

1. Certificate in Agri-Food Biotechnology

Courses offered in Term 1 (September-December)

| Course | Description |
|-----------------|---|
| FNH 300 | Principles of Food Engineering |
| FNH 301 | Food Chemistry I |
| FNH 302 | Food Analysis |
| FNH 413 | Food Safety |
| FNH 415 | Business Concepts in Food, Nutrition and Health |
| FNH 436 | Integrated Functional Genomics |
| FNH 497 (A,B,E) | Directed Studies in Food, Nutrition and Health |

| Course | Description |
|---------------|-------------------------------|
| FRST 413 | Ecological Plant Biochemistry |

Courses offered in Term 2 (January-April)

| Course | Description |
|-----------------|---|
| APBI 440 | Plant Genomics |
| FNH 303 | Food Product Development |
| FNH 313 | Microorganism in Food Systems |
| FNH 402 | Functional Foods and Nutraceuticals |
| FNH 405 | Microbiology of Food and Beverage Fermentation |
| FNH 497 (A,B,E) | Directed Studies in Food, Nutrition and Health |
| FRE 302 | Small Business Management in Agri-food Industries |
| FRE 385 | Quantitative Methods for Business and Resource Management |

2. Certificate in Food, Nutrition, and Health

Courses offered in Term 1 (September-December)

| Course | Description |
|-----------------|---|
| FNH 200 | Exploring Our Food |
| FNH 250 | Nutrition Concepts and Controversies |
| FNH 300 | Principles of Food Engineering |
| FNH 301 | Food Chemistry I |
| FNH 302 | Food Analysis |
| FNH 325 | Food Science Laboratory I |
| FNH 330 | Introduction to Wine Science I |
| FNH 342 | Critical Perspectives on Consumer Food Practices |
| FNH 350 | Fundamentals of Nutrition |
| FNH 355 | International Nutrition |
| FNH 370 | Nutrition Assessment |
| FNH 398 | Research Methods in Human Nutrition |
| FNH 403 | Food Laws, Regulations and Quality Assurance |
| FNH 413 | Food Safety |
| FNH 415 | Business Concepts in Food, Nutrition, and Health |
| FNH 472 | Maternal and Fetal Nutrition |
| FNH 497 (A,B,E) | Directed Studies in Food, Nutrition and Health |
| FRE 302 | Small Business Management in Agri-food Industries |
| FRE 306 | Introduction to Global Food Markets |
| FRE 340 | International Agricultural Development |
| LFS 350 | Land, Food, and Community II |

Courses offered in Term 2 (January-April)

| Course | Description |
|-----------------|---|
| FNH 250 | Nutrition Concepts and Controversies |
| FNH 303 | Food Product Development |
| FNH 309 | Food Process Science |
| FNH 313 | Microorganisms in Food Systems |
| FNH 326 | Food Science Laboratory II |
| FNH 330 | Introduction to Wine Science I |
| FNH 335 | Introduction to Wine Science II |
| FNH 351 | Vitamins, Minerals, and Health |
| FNH 355 | International Nutrition |
| FNH 371 | Human Nutrition Over the Life Span |
| FNH 402 | Functional Foods and Nutraceuticals |
| FNH 405 | Microbiology of Food and Beverage Fermentation |
| FNH 451 | Nutrient Metabolism and Implications for Health |
| FNH 455 | Applied International Nutrition |
| FNH 473 | Applied Public Health Nutrition |
| FNH 474 | Sport Nutrition |
| FNH 497 (A,B,E) | Directed Studies in Food, Nutrition and Health |
| FRE 385 | Quantitative Methods for Business and Resource Management |
| FRE 460 | Economics of Food Consumption |
| LFS 350 | Land, Food, and Community II |

3. Certificate in Food Market Analysis

Courses offered in Term 1 (September-December)

| Course | Description |
|---------------|---|
| COMM 497 | New Enterprise Development |
| ECON 371 | Economics of the Environment |
| FNH 200 | Exploring Our Food |
| FNH 250 | Nutrition Concepts and Controversies |
| FNH 415 | Business Concepts in Food, Nutrition and Health |
| FRE 306 | Introduction to Global Food Markets |
| FRE 340 | International Agricultural Development |
| FRE 374 | Land and Resource Economics |
| FRE 490 | Current Issues in Food and Resource Economics |

Courses offered in Term 2 (January-April)

| Course | Description |
|---------------|------------------------------|
| COMM 497 | New Enterprise Development |
| ECON 371 | Economics of the Environment |

| Course | Description |
|---------------|---|
| FNH 200 | Exploring Our Food |
| FNH 250 | Nutrition Concepts and Controversies |
| FRE 302 | Small Business Management in Agricultural food Industries |
| FRE 385 | Quantitative Methods for Business and Resource Management |
| FRE 420 | The Economics of International Trade and the Environment |
| FRE 460 | Economics of Food Consumption |

4. Certificate in Sustainable Agriculture

Courses offered in Term 1 (September-December)

| Course | Description |
|---------------|--|
| APBI 222 | Introduction to Horticulture |
| APBI 260 | Agroecology I <i>6-credit course</i> |
| APBI 290 | Introductory Topics in Applied Biology |
| APBI 314 | Animals and Society |
| APBi 318 | Applied Plant Breeding |
| APBI 324 | Introduction to Seed Plant Taxonomy |
| APBI 327 | Introduction to Entomology |
| APBI 328 | Weed Science |
| APBI 351 | Plant Physiology <i>4-credit course</i> |
| APBI 401 | Soil Processes |
| APBI 403 | Soil Sampling, Analyses and Data Interpretation |
| APBI 417 | Production and Post Harvest Physiology of Vegetable Crops <i>4-credit course</i> |
| APBI 426 | Plant-Microbe Interactions |
| APBI 460 | Advanced Agroecology |
| FRE 374 | Land and Resource Economics |
| LFS 350 | Land, Food, and Community II |

Courses offered in Term 2 (January-April)

| Course | Description |
|---------------|--|
| APBI 200 | Introduction to Soil Science |
| APBI 265 | Sustainable Agriculture and Food Systems |
| APBI 315 | Animal Welfare and the Ethics of Animal Use |
| APBI 322 | Horticultural Techniques |
| APBI 342 | Soil Biology |
| APBI 360 | Agroecology II <i>Note: 4-credit course</i> |
| APBI 361 | Key Indicators of Agroecosystem Sustainability |
| APBI 402 | Sustainable Soil Management |
| APBI 412 | Belowground Ecosystems |
| APBI 440 | Plant Genomics |
| APBI 444 | Agroforestry |

| Course | Description |
|----------|---|
| APBI 495 | Principles of Wildlife Management in Forestry and Agricultural Environments |
| ECON 371 | Economics of the Environment |
| FRE 302 | Small Business Management in Agri-Food Industries |
| FRE 385 | Quantitative Methods for Business and Resource Management |
| FRE 460 | Economics of Food Consumption |
| LFS 350 | Land, Food, and Community II |

5. Certificate in Food and Resource Economics

The Certificate in Food and Resource Economics requires five UBC courses (15 credits). The Certificate can be completed by spending either Term 1 or Term 2 at UBC. The requirements of the Certificate in Food and Resource Economics are the completion of four “upper level” Food and Resource Economics courses, i.e. 12 credits from FRE courses number 300 and above including FRE 295, plus one unrestricted elective course (3 credits). Students can choose an elective that meets their interests and career objectives. Typically, students choose their elective from APBI, COMM, ECON, or FNH courses, but some students will choose an elective from a different discipline that is not offered at their Tec campus.

Courses offered in Term 1 (September-December)

| Course | Description | Pre-requisite | Credits |
|----------------|---|---|---------|
| FRE 295 | Managerial Economics | Either (a) ECON 100 or (b) all of ECON 101, ECON 102; and MATH 105. | 3 |
| FRE 306 | Introduction to Global Food Markets | One of ECON 101, ECON 310 | 3 |
| FRE 340 | International Agricultural Development | One of ECON 100, ECON 101 | 3 |
| FRE 374 | Land and Resource Economics | One of ECON 101, ECON 310 | 3 |
| FRE 490 | Current Issues in Food and Resource Economics | One of ECON 101, ECON 310 | 3 |

Courses offered in Term 2 (January-April)

| Course | Description | Pre-requisite | Credits |
|----------------|---|--|---------|
| FRE 302 | Small Business Management in Agri-food Industries | One of ECON 101, ECON 310 | 3 |
| FRE 385 | Quantitative Methods for Business and Resource Management | One of ECON 101, 310 and one of LFS 252, BIOL 300, FRST 231, STAT 200 | 3 |
| FRE 420 | The Economics of International Trade and the Environment | One of ECON 101, FRE 295, COMM 295 (or 6 credits of upper-level FRE or ECON) | 3 |
| FRE 460 | Economics of Food Consumption | One of ECON 101, ECON 310 | 3 |

Target learners

These certificates are only open to those who apply and are nominated by their Tec de Monterrey International Programs Office under the Tec-UBC Joint Academic Program.

Student Admission Criteria

Go Global admits Tec de Monterrey students based on their meeting the minimum academic requirements, as well as their program of study.

Applicants are required to:

- Have a minimum 83% GPA
- Have a minimum TOEFL score of 580 (ITP) or 90 (IBT)
- Students can apply in their **3rd semester** to study at UBC in the 4th semester or later. However, certain certificates and courses have additional pre-requisites. For example, students taking business certificates like Operations & Logistics or Finance, must have completed their 5th semester at Tec before coming to UBC.
- Students wishing to come for a certificate must **meet the pre-requisites** for each certificate. Some certificates may require students to be in their **5th, 6th or 7th semester**.

Program Delivery Format

All courses are delivered face to face.

Marketing / promotion strategy

N/A – these certificates are only available to Tec students in the Joint Academic Program.

Assessment of impact on departmental and university resources

There is no anticipated impact on departmental or university resources. Certificate courses are regular undergraduate courses with a limited number of spots reserved for Tec de Monterrey students.

Assessment of financial viability

Presently, financial information is not tracked for individual certificate programs. Existing data includes revenue from students taking courses in both certificate and non-certificate programs. However, the existence of the certificate programs has not imposed any significant costs on the Faculty, and no changes that would increase their cost are proposed or anticipated. Accordingly, the certificate programs are expected to remain financially viable.

| | Student Participation | | | | | |
|---------------------------|-----------------------|---------|---------|---------|---------|---------|
| | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
| Agri-Food Biotechnology | -- | -- | -- | -- | 1 | 0 |
| Food Nutrition and Health | 2 | 0 | 2 | 0 | 1 | 2 |
| Food Market Analysis | 0 | 0 | 0 | 1 | 0 | 0 |
| Sustainable Agriculture | 0 | 0 | 1 | 0 | 0 | 1 |

Fees

As per the 2015 amendment to the “Academic Joint Program and Facility Joint Venture Agreement”, students pay 70% of the ISI international tuition fees. No additional fees are collected from students undertaking a certificate, nor is there a separate admissions process at UBC.

Advisory Committee

Currently, the Tec de Monterrey partnership is overseen by a Go Global Advisor, under the direction of the Director of Go Global: International Learning Programs. The Advisor consults with Faculty designates as required.

The Faculty designates have discussed re-instating the Advisory Committee as originally laid out in the 2001 Joint Academic Program Agreement. This committee would include:

- Director, Go Global: International Learning Programs
- Advisor, Tec de Monterrey Partnership, Go Global: International Learning Programs
- Faculty of Applied Science, Associate Dean
- Faculty of Arts, Associate Dean
- Faculty of Land and Food Systems, Associate Dean
- Faculty of Commerce, Associate Dean

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- Students wishing to come for a certificate must **meet the pre-requisites** for each certificate. Some certificates may require students to be in their **5th, 6th or 7th semester**.

Program Delivery Format

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Assessment of financial viability

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| | Student Participation | | | | | |
|---------------------------|-----------------------|---------|---------|---------|---------|---------|
| | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
| Agri-Food Biotechnology | -- | -- | -- | -- | 1 | 0 |
| Food Nutrition and Health | 2 | 0 | 2 | 0 | 1 | 2 |
| Food Market Analysis | 0 | 0 | 0 | 1 | 0 | 0 |
| Sustainable Agriculture | 0 | 0 | 1 | 0 | 0 | 1 |

Fees

As per the 2015 amendment to the “Academic Joint Program and Facility Joint Venture Agreement”, students pay 70% of the ISI international tuition fees. No additional fees are collected from students undertaking a certificate, nor is there a separate admissions process at UBC.

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- Advisor, Tec de Monterrey Partnership, Go Global: International Learning Programs
- Faculty of Applied Science, Associate Dean
- Faculty of Arts, Associate Dean
- Faculty of Land and Food Systems, Associate Dean
- Faculty of Commerce, Associate Dean



To: Senate
From: Nominating Committee
Re: Membership of the Ad Hoc Committee on Academic Diversity and Inclusivity
Date: 15 February 2018

The Senate Nominating Committee has considered volunteers and recommendations for the Senate and non-Senate members of this ad hoc committee. The Committee appreciates the large degree of interest shown by the campus community, and would express its thanks to all those who agreed to put their names forward. The Committee further notes that the students have suggested that a member of the University's executive should join the ad hoc committee; the Nominating Committee would be pleased to consider that suggestion should one volunteer and to recommend that the ad hoc committee be enlarged accordingly.

The Committee is pleased to recommend:

That Peter Marshall, Anne Murphy, Santokh Singh, Jakob Gattinger (Student Member of Senate), Marium Hamid (Student Member of Senate), Sara-Jane Finlay, Paola Baca, Debra Martel, Dorine Akwiri (Student), and Jeannie Malone (Student) be appointed to the Ad Hoc Committee on Academic Diversity and Inclusivity until replaced.

Sara-Jane Finlay is the Associate Vice-President of Equity and Inclusivity at UBC.

Paola Baca is the Associate Director of Undergraduate Admissions

Debra Martel is the Associate Director of the First Nations House of Learning

Dorine Akwiri is an international graduate student studying public policy and global affairs and a graduate of Moi University, Kenya, in community development.

Jeannie Malone is a graduate student studying biomedical engineering, a UBC graduate in Electrical Engineering, a former president of the Engineering Undergraduate Society, and a member of the Board of Governors.



THE UNIVERSITY
OF BRITISH COLUMBIA

Office of the Senate
Brock Hall | 2016 - 1874 East Mall
Vancouver BC V6T 1Z1

Phone 604 822 5239
Fax 604 822 5945
www.senate.ubc.ca

2018/2019 Academic Year

| | |
|-------------|--|
| Date | 28 February 2018 |
| To | Senate |
| From | Kate Ross, Associate Vice-President Enrolment Services & Registrar |

Key dates for the 2018/19 **Winter Session** are as follows:

Winter Session Term 1

| | |
|---|------------------------------|
| Term 1 begins | Tuesday, September 4, 2018 |
| Last day of Term 1 classes for most faculties | Friday, November 30, 2018 |
| First day of exams for Term 1 | Tuesday, December 4, 2018 |
| Last day of exams for Term 1 | Wednesday, December 19, 2018 |
| Number of Teaching Days | 61 |

Winter Session Term 2

| | |
|---|---------------------------------|
| Term 2 begins | Wednesday, January 2, 2019 |
| Mid-term break | February 18 – February 22, 2019 |
| Last day of Term 2 classes for most faculties | Thursday, April 4, 2019 |
| First day of exams for Term 2 | Monday, April 8, 2019 |
| Last day of exams for Term 2 | Friday, April 26, 2018 |
| Number of Teaching Days | 61 |

Key dates for the 2019 **Summer Session** are as follows:

Summer Session Term 1

| | |
|---|-------------------------|
| Term 1 begins | Monday, May 6, 2019 |
| Mid-term break (Congress) | June 3 – June 7, 2019 |
| Last day of Term 1 classes for most faculties | Thursday, June 20, 2019 |
| First day of exams for Term 1 | Monday, June 24, 2019 |

| | |
|------------------------------|-----------------------|
| Last day of exams for Term 1 | Friday, June 28, 2019 |
|------------------------------|-----------------------|

| | |
|-------------------------|----|
| Number of Teaching Days | 28 |
|-------------------------|----|

Summer Session Term 2

| | |
|---------------|-----------------------|
| Term 2 begins | Tuesday, July 2, 2019 |
|---------------|-----------------------|

| | |
|---|------------------------|
| Last day of Term 2 classes for most faculties | Friday, August 9, 2019 |
|---|------------------------|

| | |
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| First day of exams for Term 2 | Tuesday, August 13, 2019 |
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| Last day of exams for Term 2 | Saturday, August 17, 2019 |
|------------------------------|---------------------------|

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|-------------------------|----|
| Number of Teaching Days | 28 |
|-------------------------|----|

Draft term and examination dates for academic years up to and including 2022/2023 may be viewed on the Senate website: <https://senate.ubc.ca/vancouver/termdates>



To: Senate
From: Registrar
Re: Confirmation of Email Consent to Nominating Committee Recommendations
Date: 15 February 2018

This is confirmation that no objections were received to the two motions distributed to all senators via email on Thursday 8 February 2018 by the deadline of Thursday 15 February 2018 and thus both resolutions are considered approved pursuant to rule 24 of the *Rules and Procedures of Senate*:

That Dr Susan Forwell be appointed to the President's advisory Committee for the Selection of a Vice-President Finance and Operations.

That Dr Sue Grayston be appointed to the President's advisory Committee for the Selection of a Vice-President Development and Alumni Engagement.

Senate 2020

Our Vision, Our Voice

Prepared by Student Senate Caucus,
With help from the AMS VP Academic & University Affairs Office

Overview

Senate 2020 represents a student-centered vision for the academic priorities of the UBC-Vancouver Senate throughout the next triennium. Student Senators have identified four unifying themes in our collective priorities. These are (1) **Transforming Student Learning**, (2) **Supporting Student Success**, (3) **Advancing Student Access and Equity**, and (4) **Modernizing Governance**.

Wherever possible, the major academic objectives and advocacies contained within each theme have been further categorized. Where a topic of interest is not substantial or complex enough to warrant a robust explanation, the topics are categorized as a supplementary priority. Suggestions as to the committee, or committees, best equipped to affect these objectives are included.

Our hope is that Senate 2020 will exist as a living document, where it will be modified and transformed over the next triennium as new student priorities arise and as previous objectives are refined, redefined, or realized. The objectives outlined below are not absolute. Senate 2020 hopes to frame the first of many discussions within Senate, with suggestions as to how these objectives may be achieved.

(1) Transforming Student Learning

1.1 Undergraduate Research

Student Senate Caucus has proposed a framework for undergraduate research and research-equivalent activities to align with UBC's strategic plan. Our goal is to integrate undergraduate opportunities, the existing research infrastructure, and multiple stakeholders including graduate students, faculty, staff, alumni, and industry. Students believe there is a gap in existing extra-curricular learning that targets academic paths to graduate and post-graduate to education rather than professional experience. Regardless of the precise iteration through which the proposal is realized, we believe the Senate can play a significant role in its development as it relates to learning, policy, and curricula.

1.2 Grading Practices

Suggested Committee(s): Academic Policy (1.2.1, 1.2.2);
Teaching and Learning (1.2.3)

1.2.1 Online Course Access Codes: Student senators believe that now is the time for a discussion surrounding grading practices and policy. Students have identified courses that require the purchase of online access codes to complete evaluated course components as an unacknowledged cost of tuition. It is often mandatory for a student to obtain a code in order to succeed in the course. Apart from contravening the spirit of the provincial policy on 2% tuition increases, it also poses a significant inequity to students who may struggle to pay the additional tuition required for evaluation. Consequently, Student Senate Caucus proposes a policy limiting such practices and accommodating students for whom this poses an excess burden.

1.2.2 Group Evaluation: In addition to online course access codes, there is also a desire to develop policy surrounding group evaluations. While group projects and presentations are critical components for developing core competencies in a variety of disciplines, it is undiscerning to evaluate students collectively, rather than individually, for their group work. Many of the problems with this model are familiar; the most common is that it often falls on a few students to work disproportionately harder to excel by their own standards. Moreover, grading students as a group subverts the integrity of the transcript as being representative of an individual's evaluation. One solution would be to use peer evaluation tools such as iPeer, currently a widespread but not ubiquitous practice, to ensure individual contributions are reflected. Regardless, students believe that a policy is necessary to resolve this issue.

1.2.3 Assessments over official break: There is currently no policy limiting the due dates or deadlines of assessments to when the University is open for classes. That is, it is possible for instructors to assign homework, quizzes, or midterms due during Reading Break or even Winter Break. Indeed, such assessments are common practice over Reading Break for term 2 courses and Winter break for full-year courses. While it is common for students to spend much of the break preparing for their academic pursuits, it seems outside the intention of the break itself to allow for assessments. In consideration of this, a policy that clarifies that Reading Break and Winter Break preclude both the scheduling of classes (for classes that are not explicitly exempt) and assessments would be beneficial. Additional mention of

which weekend during the break, if any, could be considered the “regular weekend” would also be practical.

1.3 Mandatory Syllabi

Suggested Committee(s): Academic Policy (1.3)

Senate’s ongoing work with respect to a mandatory syllabi policy has continuously been identified as a priority of students. Beyond a mere mandate for the inclusion of contact information, course location, methods of evaluation, and learning outcomes, there is significant interest in mandating the inclusion of additional materials. Examples of relevant additional materials would be information on academic integrity, student resources for mental health, as well as sexual violence policies and disclosures. The argument in favour of these is not to enforce a contractual obligation between student and instructor, but rather to genuinely inform students who would not otherwise be aware of these principles, policies, or resources.

Note: Student Senate Caucus would like to recognize that the Senate has already made significant independent progress towards the completion of this goal.

1.4 Student Evaluations of Teaching

Suggested Committee(s): Academic Policy and Curriculum (1.4)

Student Evaluations of Teaching provide insight into student perceptions of their instructors. Yet only the University Module is standardized, and the information contained within is not published without the instructor's consent under provincial legislation. While there are additional questions that are commonly asked across faculties and departments, students are of the belief that instructors, students, and the University could benefit from the introduction of four additional standardized questions. The goal of these questions is to provide feedback related to student perceptions of the course, not the instructor, with an emphasis on open educational resources, course materials, course satisfaction, and the demands of the course. Our hope is that these questions can be distinguished from any form of referendum of the efficacy or success of the instructor, and instead be utilized as a tool for improving learning outcomes. These specific responses could be published in any manner that does not violate the instructor’s right to privacy and protection of personal information. The proposed questions are as follows:

1. How would you rate your overall satisfaction with this course?
[1 2 3 4 5 6]
2. How would you rate the value of this course with respect to your degree?
[1 2 3 4 5 6 elective]
3. How would you rate the effectiveness of the course materials?
[1 2 3 4 5 6 did-not-access]
4. On average, how many hours each week did this course demand (including instructional time)?
[2 4 6 8 10 12 12+]

By asking and further publishing these specific questions, students and instructors are better informed as to the nature of their course when modifying curriculum or registering for the academic year. Student Senate Caucus would like to engage in further discussion that will bring these questions to fruition.

1.5 Learning Analytics

There are several increasing opportunities to utilize vast stores of student data to improve learning outcomes and course experiences for students. Learning Analytics has the potential to be used university wide to improve our learning practices and activities through data informed program and course redesign. Learning data and insights can be used to inform not only the individual learner but specific groups and entire cohorts. Information ought to be used to create tools for the individual instructor to engage with learners. Also, aggregate information about courses, programs, and learning experiences should be used to inform department, faculty, and institutional strategies. Ensuring that there are adequate policies surrounding the utilization of this data, and having the Senate engage in these discussions to inform the pedagogy of University teaching is imperative. The timely creation of these policies and engagement is necessary to remain competitive and ahead of our peer institutions as well.

1.6 Complementary Priorities

Suggested Committee(s): Curriculum (1.6.1, 1.6.2); Teaching and Learning (1.6.3); Academic Policy (1.6.4)

1.6.1 Academic Orientation: Library orientations are an important component of developing core competencies with respect to academic integrity and research skills. As such, Student Senate Caucus proposes the implementation of a mandatory library orientation for all first-year English classes. Recognizing that many classrooms already partake in this process, reviewing first-year curriculum to ensure that it is comprehensive is fundamental to a successful academic career.

1.6.2 Awareness of IPA: The International Phonetic Alphabet (IPA) is a linguistic alphabet to assist in the writing and pronunciation of spoken languages. As such, it is frequently employed in translations and representations of Musqueam and other First Nations languages. Student Senate Caucus believes that all students should receive a basic education on the history, pronunciation, and importance of the International Phonetic Alphabet, with an emphasis on its relation to the Indigenous lands on which UBC-V is situated. This would ideally be implemented via first-year English courses.

1.6.3 Comprehensive Learning Records: Acknowledging that invaluable learning occurs in a student's extracurricular and co-curricular activities, the initiative to introduce Comprehensive Learning Records arises out of a need to holistically represent student learning. Student senators recognize the immense value of these enhanced, and co-constructed records in providing insight and validity to student experiences within and outside of the classroom. Student Senate Caucus will continue to prioritize this initiative and support the continued efforts to realize this goal.

1.6.4 Mental Health and Wellbeing: In April 2017, the Senate ad hoc committee on Mental Health and Wellbeing provided final recommendations that were approved by the Senate. Updates and continued consultation with community members as to the progress of all recommendations is necessary for the successful implementation of the final report. The prompt completion of these recommendations must be prioritized by all responsible committees and overseen by Teaching and Learning to ensure timely progress is made. Ensuring that these recommendations are properly implemented and completed remains a priority for all student senators.

1.6.5 Learning technology: Student senators are keenly interested in the ways that new learning technologies can transform the classroom experience. While there has been a drastic incline in the number of courses that use formal and informal learning spaces in an innovative manner, there is potential for more widespread utilization. Student senators feel that a needs audit of academic learning spaces is critical to informing future capital projects are providing not just greater capacity, but the right type of capacity.

1.6.6 Academic Building Needs Audit: Recognizing that ongoing infrastructural development is a significant part of transforming learning and teaching practices at UBC, Student senators want to see the Academic Building Needs Committee (ABNC) implement an audit that considers the criteria involved in creation and renovation of infrastructure. ABNC should pay close emphasis to conducting and communicating to all community members a complete accessibility audit of all academic buildings. An additional review of the consultation process that determines the type of renovations and the extent of technological and structural enhancements needs to also be conducted to ensure that resources are being utilized to best serve the academic needs that are currently present.

(2) Supporting Student Success

2.1 Scheduling

Scheduling at UBC is a significant topic of interest. There are three primary scheduling issues that students have identified: Academic, Course, and Exam. Across these platforms, students and student senators remain deeply interested in how changes to scheduling can produce a fall reading break.

2.1.1 Exploration of alternative options: There are two core issues with respect to exam scheduling. One issue is the timeline under which exam schedules are released. Although past reports have portrayed exam schedule releases as a binary option, preset at registration or scheduled as they currently are, there is evidence this is not the case. There are a variety of means through which the schedule could potentially be released earlier, including greater automation, updates to policy and/or procedure for scheduling, or a potential incremental trade-off in exam hardships for a sooner release.

Another topic is the schedule itself. While the exam period consumes upwards of two weeks, there are numerous possible ways in which the exam length could be reduced to provide incremental teaching days, or alternatively days to contribute towards a fall reading break. Firstly, a large proportion of exams are less than 3 hours, with some as short as 2 hours and many 2 ½ hours in length. Days that contained only exams less than 3 hours would allow for more exams scheduled in a day, which could consequently reduce the number of examination days required. An alternative would be to implement a policy that limits examinations to 2 ½ hours instead of 3. Secondly, a significant constraint on exam scheduling is the limited space available for large examinations. A solution to this would be to allow via policy or procedure the usage of restricted learning spaces for exams, which could potentially reduce the number of exam days required as well. Further investigation is needed to determine the full effects of such a requirement. Thirdly, the need for large learning spaces is largely driven by a desire to have students across multiple course sections writing simultaneously. One possibility would be to allow for exams to be scheduled across smaller classrooms in the same facilities. Fourthly, there has been discussion of removing Sunday as a rest day and including examinations on Sundays as well. Once again, greater information is necessary to make a complete judgment, but exploration is nevertheless warranted. In each instance, there are undoubtedly drawbacks to making such changes, many of which student senators are acutely aware. However, student senators believe that these disadvantages are outweighed by the benefit that could be brought about. Finally, it is not clear to students that the exam scheduling process itself is fully optimized with respect to the computations completed. Considering that the exam schedule represents an enormous operational cost time-cost to the University, it undoubtedly warrants greater attention from the Senate moving forward.

2.1.2 Centralized Process: Course scheduling has also drawn the attention of student senators. In 2016, an external review entitled Course Pattern Scheduling Review noted many ongoing challenges with UBC's scheduling procedures, including the conflicting scheduling of requisite and pre-requisite courses, the physical location of class scheduling, and the amount of time dedicated to teaching. For instance, many required courses are only offered in one term, which can prevent a student from going on Exchange during that term. Alternatively, required courses can be scheduled at times that preclude registration from similar, complementary courses within the same discipline. In regards to where classes are scheduled, it is not uncommon for classes to be located a kilometer apart on campus, particularly in the Arts and Sciences, despite that neither space is specialized and both classes are within the same course code and year level. In each of these cases, the root cause of the problem is likely the

decentralized nature in which courses are scheduled. The decentralized nature of course scheduling results in a high number of classes scheduled between 10am and 2pm, to the detriment of students being able to attend or effectively attain multiple specializations concurrently. An additional concern is that night classes are not always taught in a central location but often on the peripheries of campus. A centralized, data-driven process could rectify many of these mistakes, reducing conflicts and easing the burden on administrative staff.

2.1.3 Teaching time allocation: A significant concern that has not been given adequate attention is teaching time dedicated to various course schedules. For instance, it is widely known recognized that Monday/Wednesday/Friday (M/W/F) classes often receive less teaching time because of the placement of holidays throughout the academic term. In addition to this, however, both the Student Services Centre Course Schedule and the Academic Course Scheduling Guidelines explicitly state that M/W/F classes should be 50 minutes and that Tuesday/Thursday (T/Th) classes should be 80 minutes. This means that, per week, classes scheduled on Tuesdays and Thursdays receive 10 additional minutes of teaching time. Over an entire term, this adds up to more than two full hours of teaching time, or nearly a full week of Monday/ Wednesday/ Friday classes. This is in addition to lost teaching time from holidays. For instance, in the 2016 Term 1 Winter Session, students enrolled in classes scheduled for T/Th received an extra 220 minutes of teaching time compared to their peers. In addition to the disparity between M/W/F and T/Th times, there is also a significant disparity between term 1 and term 2 class schedules. While the first term is often at the margin of 60 teaching days, the second term can at times reach 65 teaching days. This also results in a difference in classroom instruction time. In the 2014W term 2, T/Th classes received 2240 teaching minutes, whereas 2013W term 1 received only 1750 teaching minutes, representing a 28% difference, or three weeks of M/W/F classes, in instruction. This raises three significant questions. Firstly, is there evidence that students who receive additional teaching time in a course perform better? The intuitive answer is yes, although this is not firmly supported by any analysis. However, this has significant implications for students whose course is a prerequisite or continuation requirement for their degree. Such differences could mark the divergence of learning outcomes much farther along in their degree. Secondly, is it fair to charge students equal tuition for substantially different learning experience and teaching time? While there is certainly a more complex pedagogical answer to this, a preliminary response from students is “no”. Thirdly, given the enthusiasm for a Fall Reading Week, and the complexity of adding or reducing teaching days, is it possible to redesign the term scheduling policy to target the number of teaching hours as opposed to the abstract number of teaching days? This is certainly a more complex question, but one that students are expressly interested in exploring. Rescheduling M/W/F classes into time slots that reduce lost teaching time would logistically allow for an additional 3 days of vacation time, with no impact on total teaching time compared to a T/Th class. Student Senate Caucus firmly believes that the poorest solution would be to enforce shorter T/Th classes, as this reduces potential instructional time and adds no additional value logistically, operationally, or academically to the University. Alternatively, it is possible that there are poorer outcomes from T/Th classes if the classes are taught differently because of their length. It is imperative that a more fulsome exploration of class scheduling is undertaken to resolve some of these potential issues.

2.2 Academic Concessions

Suggested Committee(s): Academic Policy (2.2)

2.2.1 Deferrals: Standing Deferrals allow students with sufficient rationale to write examinations during the July-August period. Rationale notwithstanding, this policy is a remnant of the period through which

courses were full-year, running from September to April. However, the increased utilization of three-credit courses that operate from September to December means that a student with an examination in the first week of December may have to wait until the first week of August to write their examination if they are unable to schedule a separate examination period with their professor.

2.2.2 Concessions: An adjacent but distinct issue is concessions after an examination. Currently, students may not receive concession after they have written an exam. While this seems sensible, it implies that students who are seeking a concession in the near term for an examination and are uncertain whether their concession will be granted must decide between writing an exam they may have a valid reason for being unprepared to write, and missing an exam to seek a concession they are not certain they will receive. Neither is consistent with the University's framework on Mental Health and Wellbeing. A small, reasonable change would begin by allowing students to seek concessions after an examination if they provided notice in advance that they were seeking a concession.

2.2.3 Students are also seeking a standardized policy in collaboration with the Alma Mater Society. The goal is not to deliver new policies, but to begin by delivering consistent and standardized practices across the University. Such a policy would include a clear delineation of authority and the order in which concessions can be granted, clarity surrounding documentation across a range of standard concession reasons, as well as clarity with regards to what concessions are available under different circumstances (e.g., withdrawals, backdated withdrawals, exemptions from assessments, and SD's).

2.2.4 Policy 131 Implementation: Student senators would like to see a review undertaken to ensure that all Senate policies are consistent with Policy 131. For example, if a student withdraws from class for reasons relating to sexual violence, but still wishes to remain eligible for awards, Policy 131 would require the student to appeal to Enrolment Services, which would violate the clause of Policy 131 requiring only a single disclosure in survivor-centric support. Similar examples abound for disclosures and concessions as it relates to instructors, advisors, and department heads. Additionally, Student Senate Caucus feels that it is unethical to charge tuition fees for the same course twice when a student withdrew initially for reasons relating to sexual violence (along with other related instances). Overall, student senators are certainly not experts in the intersection of sexual violence and policy in higher education, but believe that there are likely numerous areas that will necessitate change in today's climate.

2.2.5 Refunds: While student senators feel strongly that refunds following withdrawals are imperative in relation to Policy 131, Student Senate Caucus is also more broadly interested in revisiting policy surrounding Refund of Fees and Change of Registration. Reviewing whether the add and drop date are properly supporting student success, and whether there is a valid rationale to withholding fee refunds in cases of extenuating circumstances.

2.3 Learning Analytics

Suggested Committee(s): Teaching and Learning (2.3)

Similar to the goals outlined in 1.5, student senators are interested in the ways in which advances in computation and analysis can improve student outcomes. While there is already significant activity in this field, it is important that the work being done informs the academic governance of the Senate and vice versa. It is critical that the Senate use learning analytics not only to improve teaching and learning outcomes, but also to inform policies on withdrawals, accommodations, marginalized populations,

course and degree preferences, amongst other policy and demographic information, to ensure that students and faculty are supported to the greatest possible degree throughout their academic teaching mission.

2.4 Additional Priorities

2.4.1 Study spaces: Student Senate Caucus identified awareness of available classroom study spaces as a priority to increase utilization of empty classrooms and formal study spaces. There has been discussion of a project that uses Wi-Fi connections to determine space utilization and provide live information to students that helps identify available study spaces on campus accordingly.

2.4.2 Aligning graduation and convocation: Currently graduation periods are only offered in November and May. This is often an inconvenience for students who complete their studies and graduation requirements in December. In such cases, students can receive a letter indicating they have met the requirements for graduation. However, it would be a minor change for Senate to approve degrees in January. Additionally, moving convocations to more closely align with graduation periods is a further possibility. This would smooth the process for mid-year graduates and reduce the burden of May graduations.

2.4.3 Course availability for Graduating Students: Current policy surrounding student space in courses is restricted to students in their graduating year. However, there are numerous instances in which the availability of pre-requisite courses is essential to completing a degree in a standard time frame. Surveys of students indicate that the lack of available courses is still a significant barrier to timely graduation. Thus, student senators believe the policy concerning Space in Courses should be amended to provide for students who are not in their graduating year but whose degree timeline would be objectively delayed by the unavailability of their necessary courses. Clarification surrounding whether the policy broadly applies to sets of courses where any course within a set is satisfactory, or only towards individual requisite courses would be additionally helpful.

(3) Advancing Student Access and Equity

3.1 Ad Hoc Committee on Academic Diversity and Inclusivity

The Student Senate Caucus views academic diversity and inclusion as a key component to the work that needs to be achieved in Senate. Identifying the significant gap that has existed in the Senate realm on this topic, the new ad-hoc committee on Academic Diversity and Inclusivity, which the Student Senate Caucus proposed and successfully founded earlier this year, we hope to prioritize two key areas in Senate. First, inside the classroom through curriculum and scholarship. Second, outside of the classroom through student admission and retention.

For us to best keep to this commitment, we want a thorough exploration of unimplemented and incomplete recommendations from previous bodies of work including the past strategic plan of UBC, Place and Promise along with Valuing Differences. We hope this process prompts the implementation and revision of existing policies that are not aligned with the values of inclusive intellectual exchange. Furthermore, we propose for there to be a strong student presence in the consultation that is conducted to change and create academic policies and structures that better address issues of inclusion and diversity. The final report made to Senate with recommendations in 2020 should be reflective of the student voice and an implementation plan that is prompt and action focused.

3.2 Admissions

Suggested Committee(s): Admissions (3.2)

3.2.1 Admission Analytics: Regarding prospective students, UBC's mission is to admit students who will enroll and be successful at the institution through to graduation. In recent years, universities have been increasingly interested in informing admissions processes with analytics and algorithms. Student Senate Caucus is supportive of broadly expanding the usage of "big data", predictive analytics, and other machine learning techniques to improve admissions outcomes so that UBC admits the strongest possible pool of applicants with the greatest likelihood to succeed. There are many possible advantages to such a methodology, which will not be unnecessarily elaborated on in this document.

3.2.2 Oversight of admissions approach: Student senators are supportive of the new approach to holistic undergraduate admissions. However, students remain invested in measuring and reviewing its success and impact in the upcoming years. The changes to more robustly evaluate the breadth, depth, and relevancy of a student's coursework to get a more complete picture of them as a learner are significant and we must ensure that this remains an equitable process that supports the intake of a diverse student body. Student Senate Caucus recognizes that students from a plurality of backgrounds that have had different access to resources and opportunities will be evaluated through this new process. We emphasize that with increased human judgement in the admissions process there must be active oversight given to mitigating bias.

3.2.3 Access to admissions: As a public institution, UBC strives to admit as many qualified students as possible. However, as admissions get increasingly competitive we must be more intentional in how we approach admissions overall. While universities are often emblematic of upward mobility, they are increasingly stalwarts of the inequality they seek to overturn. The rising costs of top-tier public institutions and the role of universities in perpetuating social inequality is a critical consideration in

admissions. If UBC seeks to only admit the most explicitly competitive, qualified students, it neglects its obligation as a public research university to provide opportunity and access to the full diversity of British Columbia and beyond. Consequently, Student Senate Caucus would like exploration of targeted policies that improve access from low-income, disadvantaged, or marginalized communities. The top 10% policy in the University of Texas system, while a contentious and controversial policy, was ultimately effective in fostering avenues for upward mobility from disadvantaged communities without implementing identity-targeted admissions policies. As UBC's applicant pool expands and becomes evermore competitive, affirming our commitment to diversity and opportunity through targeted access policies will become essential.

3.2.4 Indigenous student admission and retention: Indigenous student admissions are a determinant of both access to UBC's education and the retention and success of these students during their time here. To work towards processes of reconciliation, decolonization, and indigenization, UBC's must develop strategies to recruit, retain, and matriculate more indigenous students. There is also opportunity to review the availability and adjudication of awards for indigenous students, in considering that recent awards have reduced the overall credit load requirement for eligibility. UBC-V's Indigenous student population has been consistent at 2-3% of the student population, but student senators see an opportunity for the Admissions committee to actively look at enrollment growth and set explicit targets for "new-to-UBC" students who self-identify as aboriginal. Exploring the creation of bridge programs similar to UBC-O's Aboriginal Access Studies Program is also a worthwhile consideration for retention of newly recruited aboriginal students.

3.2.5 Transfer process: There is a common belief that it is easier to transfer into UBC from a local post-secondary institution than to be admitted out of high school. Firstly, it is unclear whether there is merit to this belief. Understanding whether there are different admissions requirements or different learning outcomes for high school admits and post-secondary transfer students is essential. Secondly, understanding the transfer requirements and cross-campus mobility to and from UBC-O and UBC-V is perhaps even more important. Ensuring that our campuses are sufficiently integrated should be a priority for both admissions and academic policy.

3.2.6 Admissions Appeals process: There is a growing need for a separate Admissions Appeals Committee to adjudicate the large volume of appeals throughout the year. The appeals process is laborious and the time commitment unduly detracts from the core focus of the committee. Student Senators believe this separation will prioritize and improve the admissions process in important areas that still need a lot of work, such as inclusion, data utilization and ambiguous university processes.

3.3 Awards

Suggested Committee(s): Awards (3.3)

Student awards are naturally a topic of interest for student senators. Eligibility and adjudication are the two primary components that student senators anticipate could be reformed.

3.3.1 Award Recommendation system: Awards are currently adjudicated by a plethora of adjudication committees at the University, Faculty, or Departmental-level, with a few exceptional awards adjudicated by a separate body altogether. However, the process for adjudication is unclear and opaque in several regards. Firstly, the vast majority of UBC's 6000+ awards are recommended. Admittedly, scholarships such as the Trek scholarship or a Dean's Honour List are automated and adjudicated in far greater

number than the individual awards. Nevertheless, allowing applications for recommended awards would remove any doubts, real or imagined, concerning the efficacy of any particular adjudication committee of effectively designating the most deserving student. This would in no way diminish the capacity of the adjudicating body to recommend an award, but would allow greater accessibility in the award process.

3.3.2 Formalization of process: The criterion used in recommending an award is restricted to the award description approved by the Senate. Consequently, there is a significant degree of latitude in interpreting and identifying the most deserving recipient on the committee's part. While this is in no way the fault of the committee, it is an unacknowledged disservice to both students and the generous donors who have endowed an award. The Senate could develop a method of consistent evaluation and adjudication for an award to improve the clarity of the criterion, although there are certainly other points of contact at which this could be rectified as well. Student senators recognize specificity with respect to a particular discipline or demographic above all other criteria already occurs in some instances, but a comprehensive formalization of this surely does not. Formalizing this moving forward as well as retroactively wherever possible is a significant undertaking both in the scope and finished product. Formally revisiting the quantity and quality of information provided to adjudication committees could prove beneficial albeit admittedly costly.

3.3.3 Credit Eligibility: Eligibility is an important discussion to undergo. Firstly, Student Senate Caucus is of the belief that the eligibility for awards should be lowered from 27 credits to 24 credits to align with the Senate definition of a full-time student, with the same procedure for calculating grades based upon the top 24 credits. In addition to lowering the credit requirement, there is significant interest in permitting usage of the summer term toward award eligibility. Currently, students who attend co-op during the one of the winter session terms are ineligible for awards. Student senators propose that students who have taken 27 credits (with the hope that this will be reduced in the future to 24 credits) within any two of the three terms should be eligible for awards. Thus, Summer Session credits would not count towards total eligibility in addition to Winter Session enrolment, but as a substitute.

3.4 Complementary Priorities

Formalization of Summer Session: There is a broad interest in the topic of the summer session as it relates to course and academic scheduling. While the formalization of summer session is a relatively new phenomenon, it is an increasingly popular staple of an undergraduate degree. Revisiting the summer session to fully integrate it into the academic year will inevitably be important, and thus doing so in the near future is seemingly prudent. In addition to the issues raised regarding the summer session, there are areas in which policy has simply not accounted for the unusual nature of the summer session. For instance, in some faculties, there are no continuation requirements for academic performance during the summer session, with the result being that a student who does not meet the basic standards of UBC continuation requirements would nevertheless be able to graduate with a UBC degree. Indeed, some students enroll in the most difficult courses during the summer to maintain the highest possible winter session average for awards and other honours. Although this is one example, it is indicative of the lack of formalization and integration that the summer session has with the regular academic year.

(4) Modernizing Governance

4.1 Student Consultation

4.1.1 Tuition consideration: Currently tuition is not included in program submissions to Senate. The Student Senate Caucus acknowledges that the Board of Governors is responsible for assessing finances, but considering tuition can significantly affect curriculum, it should be included in all submissions. This will enable both the Board of Governors and Senate to ensure the proposed costs make sense for the program.

4.1.2 Submissions to Senate: With the agenda being released after the submission deadline, it often negatively impacts Senators' ability to respond to concerns brought up in the docket. As such, the Student Senate Caucus proposes that Senators be permitted to make submissions after the agenda is released.

4.2 Review of Governance

Since the 1970s, only two reviews of the Vancouver Senate have been conducted and both were handled internally. Student Senate Caucus recognizes that with the sheer volume of business and the growth of Senate that has occurred during these interim periods, more frequent and consistent review is required. While this would certainly keep the body more accountable, best practices would also dictate that after 103 years Senate is long overdue for an external review of its governance.

As such, the Student Senate Caucus proposes a thorough and holistic review of Senate Governance. A review will provide Senators the opportunity to reflect upon positive aspects of governance as well as identify areas that need to be improved. There are five primary areas identified: resources, composition, term limits, conflicts of interests, and Council of Senates.

4.2.1 Adequate resource allocation: The foremost issue with respect to Senate is the availability of resources at the disposal of the Senate. While students are cognizant that an expansive institution such as UBC cannot effect change instantaneously, it is also imperative to realize that any significant delays owing solely to a shortage of time resources is an area of broad concern. Student senators feel it is unreasonable and inefficient for detailed work to fall so significantly upon chairs of committees and members of the senate. Reviewing whether the Senate has adequate resources and whether academic governance could be improved by delegating greater work away from senators and onto support staff is an important consideration.

4.2.2 Changes in composition: The current composition of Senate has led to Student Senators believing a reduction in the number of seats would be advantageous. Additionally, the number of administrators (e.g., Department Heads and Associate Deans) elected through as faculty members should be visited as a topic of best practices in governance. The UBC Board of Governors, for instance, only allows non-administrative faculty members to be elected.

4.2.3 Timeliness: Current processes have frequently resulted in work done within Senate taking a long time to come to fruition. To ensure efficiency, Student Senators support the consolidation of the Nominating and Agenda committee to create one cohesive administrative body within the Senate.

4.2.4 Term Limits: While there are currently no term limits in place, the Student Senate Caucus believes it is an important topic that needs to be reviewed. There are positive aspects of having Senator continuity as it ensures there are members with valuable institutional knowledge, but it also greatly reduces the possibility of fresh perspectives. Therefore, the introduction of term limits, tentatively set at 6- years like the Board of Governors, will create a needed balance within Senate. Lastly, term limits for committee chairs should also be reviewed.

4.2.5 Conflict of Interests: It is important to review potential conflicts of interests on select committees. More specifically, Student Senators would like to highlight two examples. The first is Associate Deans submitting proposals to Curriculum Committee that will be reviewed by their peers. There needs to be greater accountability for an impartial review in an environment where proposals could get approved due to a mutual understanding of not challenging each other. The second is Deans and Associate Deans being allowed to sit concurrently on Appeals and Academic Standing Committee. This may affect the outcome as the deliberation of a student's standing could be done by a direct report or a peer of the Dean who made the initial ruling. The Student Senate Caucus believes that clear rules and guidelines for conflicts of interest should be established, even if a governance review is not undertaken.

4.2.6 The Council of Senates is responsible for mandating the University Act, but does not currently meet. This has led to Student Senators believing a review is needed to determine whether the council is necessary and, if it's not, how the two campuses can deliberate on issues going forward.

These particular areas are not broadly inclusive of the governance of the Senate. There are additional, significantly more complex issues that can only be effectively evaluated or overhauled in a holistic governance review, as opposed to piecewise solutions.

4.3 Additional Priorities

Minutes of committee: Student Senate Caucus has identified publishing Senate Committee minutes as an ongoing priority to increase transparency, openness, and accountability. The Senate has been supportive of the publication of minutes and has found there to be a compelling public interest in the publication of material that is neither private nor confidential. As such, student senators recognize this priority as an essential element of healthy governance and will continue to support the ongoing process. Note: Student senators recognize this goal has been largely realized and are excited to see it refined over the next triennium.