

Vancouver Senate

**THE NINTH REGULAR MEETING OF THE VANCOUVER SENATE
FOR THE 2015/2016 ACADEMIC YEAR**

WEDNESDAY, 18 MAY 2016

6:00 P.M.

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

1. Senate Membership – Dr Kate Ross

a. Nominating Committee

As a result of the call for nominations issued last month Ms Lina Castro and Mr Jason Speidel are acclaimed as elected to the Senate Nominating Committee until 31 March 2017 and thereafter until replaced. (information)

b. Vice-Chair of Senate

The Secretary has issued a call for nominations for Vice-Chair of Senate for a term of one (1) year pursuant to Section 37 (1)(a) of the University Act. Any senators interested should email their intent to stand for election to christopher.eaton@ubc.ca by 12 noon on 18 May 2016. Should there be more than one candidate, an election will be held under this item after short statements of interest are heard by the Senate from each candidate (or their representative should they be unable to attend the meeting). (election if necessary).

2. Minutes of the Meeting of 20 April 2016 – Dr Martha Piper
(approval) (docket pages 4-25)

3. Business Arising from the Minutes – Dr Martha Piper

4. Remarks from the Chair and Related Questions - Dr Martha Piper

- a. General Remarks (information)
- b. Update on Sexual Assault Policy Development – with Associate Vice-President Sara-Jane Finlay (information)

5. Remarks from the Chancellor – Mr J. Lindsay Gordon

Update on the Presidential Search (information)

6. Candidates for Degrees and Diplomas – Dr Martha Piper

Lists as approved by the Faculties and Schools are available for advance inspection at Enrolment Services, and will also be available at the meeting.

Chair of Senate calls for the following motion:

That the candidates for degrees and diplomas, as recommended by the Faculties, be granted the degree or diploma for which they were recommended, effective May 2016, and that a committee comprised of the Registrar, the appropriate dean, and the Chair of the Vancouver Senate be empowered to make any necessary adjustments. (Approval) (2/3 majority required).

7. From the Council of Senates – Dr Ken Baimbridge

Annual Report of the Budget Committee (information) (docket pages 26-30)

8. Academic Building Needs Committee – Dr Robert Sparks

Annual Report (information) (docket pages 31-34)

9. Academic Policy Committee – Dr Paul Harrison

- a. Creation of Global Research Excellence (GREx) Institutes and Centres (approval) (docket pages 35-40)
- b. Establishing the Quantum Matter Institute as a Global Research Excellence Institute (approval) (docket pages 35-40)

10. Admissions Committee - Dr Robert Sparks

- a. Faculty of Graduate and Postdoctoral Studies – Graduate Appeals on Admission or Readmission Decisions (approval) (docket pages 41, 45-48)
- b. International Dental Degree Completion Program – Suspension of Admission (approval) (docket pages 41-42, 49-51)
- c. UBC –Langara Aboriginal Transfer Partnership (ATP): Bachelor of Commerce (approval) (docket pages 42, 52)
- d. Faculty of Graduate and Postdoctoral Studies – English Language Proficiency Requirements (approval) (docket pages 42, 53-63)
- e. Affiliation Agreement – UBC Faculty of Law and University of Hawaii (approval)(docket pages 42-43, 64-76)
- f. Degree Partnership – UBC Faculty of Law and University of Hong Kong (approval) (docket pages 43-44, -77-84)
- g. Annual Report (information) (docket pages 85-87)

11. Appeals on Academic Standing Committee – Dr Lance Rucker

Annual Report (information) (docket pages 88-91)

12. Awards Committee – Dr Lawrence Burr

May Awards Report (approval) (docket pages 92-104)

13. Joint Reports of the Admissions and Curriculum Committees - Dr Roberts Sparks / Dr Ken Baimbridge

- a. New Program: Master of Health Leadership and Policy in Clinical Education (approval) (docket pages 105-149)
- b. Master of Engineering Leadership in Smart Grid Energy Systems (approval) (docket pages 150-195)
- c. Master of Engineering Leadership in High Performance Buildings (approval) (docket pages 196-245)

14. Curriculum Committee – Dr Ken Baimbridge

Curriculum proposals from the Faculties of Applied Science, Arts, Commerce and Business Administration, Forestry, Graduate and Postdoctoral Studies (Arts), Law, and Medicine (approval) (docket pages 246-269)

15. Library Committee – Dr Lawrence Burr Annual

Report (information) (docket pages 269-270)

16. Nominating committee – Dr Perry Adebar

Committee and Council Appointments (approval) (docket pages 271-272)

17. Student Appeals on Academic Discipline Committee – Mr Tariq Ahmed

Annual Report (information) (docket pages 273-277)

18. Teaching & Learning Committee – Dr Andre Ivanov

Annual Report (information) (docket pages 278-279)

19. Tributes Committee – Dr Sally Thorne

Emeritus Appointments (approval) (docket pages 280-281)

20. Reports from the Provost – Dr Angela Redish

Data Science Institute (approval) (docket pages 282-286)

21. Other Business

Section 16 (b) of the *Rules and Procedures of the Vancouver Senate* states that meetings will adjourn no later than 8:30 p.m. Regrets: Telephone 604.822.5239 or e-mail: facsec@mail.ubc.ca

UBC Senates and Council of Senate website: <http://www.senate.ubc.ca>



VANCOUVER SENATE

MINUTES OF 20 APRIL 2016

DRAFT

Attendance

Present: Dr M. Piper (Chair), Dr K. Ross (Secretary), Dr P. Adebar, Dr R. Anstee, Dean G. Averill, Dr K. Baimbridge, Mr M. Bancroft, Ms L. Castro, Dr A. Collier, Dean C. Dauvergne, Dr A. Dulay, Mr N. Dawson, Dr Wm. Dunford, Mr B. Fischer, Dean B. Frank, Dr J. Gilbert, Dr C. Godwin, Dr P. Harrison, Dean R. Helsley, Dr A. Ivanov, Mrs C. Jaeger, Ms T. Johnson, Dr P. Keown, Mr D. Lam, Mr H. Leong, Dr P. Loewen, Dr D. MacDonald, Prof B. MacDougall, Mr K. Madill, Dr C. Marshall, Dr P. Marshall, Dr Wm. McKee, Mr Wm. McNulty, Dr P. Meehan, Dr C. Naus, Dr I. Parent, Dean M. Parlange, Dean S. Peacock, Dr N. Perry, Dr A. Redish, Dr L. Rucker, Dr C. Ruitenber, Mr I. Sapollnik, Dr B. Sawatzky, Dean S. Shuler, Mr J. Speidel, Dr R. Tees, Dr S. Thorne, Dr L. Walker, Ms K. Williams, Dr D. Witt,

Regrets: Mr T. Ahmed, Dr S. Avramidis, Ms E. Biddlecombe, Dr L. Burr, Dean M. Coughtrie, Dr S. Forwell, Dr D. Gillen, Prof. B. Goold, Chancellor L. Gordon, Dr F. Granot, Mr S. Haffey, Ms M. Huron, Dean J. Innes, Dean D. Kelleher, Dr S. Knight, Ms H. Kwan, Dr B. Lalli, Ms A. Maleki, Dr C. Nislow, Dr G. Peterson, Dr J. Plessis, Dean S. Porter, Dr A. Richardson, Dr A. Riseman, Dr T. Schneider, Ms S. So, Dr R. Sparks, Ms S. Sterling, Dr R. Topping, Ms D. Tse, Dr R. Wilson, Dean R. Yada

Guests: Mr A. Bailey (Former Senator), Ms A. Birthistle (Animal Defence and Anti-Vivisection Society of BC), Dr H. Burt (Associate Vice-President Research), Dr J. Hepburn (Vice-President Research & International), Dr K. Lo (Commerce & Business Administration), Ms L. Shaw (Animal Defence and Anti-Vivisection Society of BC), Mr A. Simpson (Vice-President Finance), Dr I. Welch (University Veterinarian)

Recording Secretary: Mr C. Eaton.

Call to Order

The Chair of Senate, Dr Martha Piper, called the eighth regular meeting of the Vancouver Senate for the 2015/2016 academic year to order at 6:04 pm.

Senate Membership

The Registrar announced that the following new senators had been elected to Senate:

- Dr Alan Richardson, Representative of the Joint Faculties, to replace Dr Peter Choi (resigned)
- Ms Lina Castro, Representative of the Students At-Large
- Mr Nick Dawson, Representative of the Students At-Large
- Mr Daniel Lam, Representative of the Students At-Large
- Ms Samantha So, Representative of the Students At-Large
- Ms Kaidie Williams, Representative of the Students At-Large

- Mr Mark Bancroft, Student Representative for the Faculty of Applied Science
- Mr Ian Sapollnik, Student Representative for the Faculty for Arts
- Ms Daphne Tse, Student Representative for the Faculty of Commerce & Business Administration
- Ms Danika Colbourn, Student Representative for the Faculty of Forestry
- Ms Miranda Huron, Student Representative for the Faculty of Graduate and Postdoctoral Studies
- Mr Jason Speidel, Student Representative for the Faculty of Graduate and Postdoctoral Studies
- Ms Ava Maleki, Student Representative for the Faculty of Land and Food Systems
- Mr Ben Fischer, Student Representative for the Faculty of Law
- Ms Taneille Johnson, Student Representative of the Faculty of Medicine
- Ms Melina Huang, Student Representative for the Faculty of Pharmaceutical Sciences
- Ms Ho Yi Kwan, Student Representative for the Faculty of Science

NB: The Education Student Senator Position transitions in October of each year, and the Registrar has yet to be informed by the Dentistry, Forestry, and Pharmaceutical Sciences undergraduate societies of their election results.

Minutes of the Previous Meeting

Richard Tees
Sally Thorne

}

That the Minutes of the Meeting of 16 March 2016 be adopted as corrected:

Corrections:

Several questions and comments from Former Senator Abaki and from Senators Adebar, Anstee and Singh regarding the Presidential Search were added to the formal meetings of the meeting as follows under the Chancellor's remarks:

Senator Anstee advised that he hadn't heard any reaction from the administration regarding the Faculty Association poll on confidence with the search and the Board, and suggested that would be awkward for any incoming President as he or she may arrive and not have the implicit or explicit confidence of the Faculty.

The Chancellor commented that the new Chair of the Board, Stuart Belkin has invited a variety of groups, including the Faculty Association to the Board meeting and they have confirmed their

attendance. That meeting will be the start of a conversation with faculty, students, alumni and staff. The expectation is that this process start on April 14th. With regards to the next president, true leaders want a challenge. The Chancellor said he himself was nervous until he saw the pool of interested candidates. Those people read the same media we do and are aware of the circumstances.

Senator Singh advised that the whole issue with governance isn't a public ranking or reputation issue, but there is no timeline or plan as to deal with the base structural problems. These issues both come back internally and externally.

The Chancellor replied that it was not a question of waiting for the next president, on April 14th we have invited constituency groups to start a process. He opined that the governance of structure of UBC was not broken but it does have challenges – the process followed last year was not perfect and it can and must be improved.

Senator Adebar opined said that every faculty member he had spoken with had confidence in the search process.

Senator Abaki suggested that questions will continue to linger so long as people have incomplete information and from a legal perspective with that incomplete information it seems improper. He advised that a contract could always be changed with consent of the parties and asked if the nature of the contract was that it could not be renegotiated.

The Chancellor advised that Dr Gupta did not consent to waive the confidentiality clause. He concluded by noting that there will always be debates around the appropriate balance between transparency and privacy.

Approved as
corrected

Remarks from the Chair

The President advised that approximately 42 new blue light phones have been installed at UBC for safety and security reasons. Those phones do have cameras and those cameras are only active if the phone is used. There are also three cameras that will be at the bus loop and will be recording on an ongoing basis.

Dr Piper noted the dedication earlier this month of a Musqueam Post on University Boulevard just above East Mall. Carved by Brent Sparrow Jr., the post acknowledged the deep and developing relationship between UBC and the Musqueam people.

The President congratulated the Faculty of Education for being ranked number 1 in North America and number 9 in the world in recent QS rankings.

Finally, Dr Piper reminded Senate of the opening of the clean energy centre, which is essentially 3 large boilers that will allow the campus to convert to a hot water heating system from a steam system. She suggested that this project will save UBC millions of dollars and help make our campus a greener space.

Academic Policy Committee

The Chair of the Senate Academic Policy Committee, Dr Paul Harrison, presented.

BACHELOR OF APPLIED SCIENCE ACADEMIC REGULATIONS

Paul Harrison	}	<i>That the amendments to the academic regulations for</i>
Lance Rucker		<i>the Bachelor of Applied Science on academic</i>
		<i>standing, promotion requirements, and supplemental</i>
		<i>examinations be approved.</i>

Approved

MASTER OF DATA SCIENCE ACADEMIC REGULATIONS

Paul Harrison	}	<i>That the amendments to the academic regulations for</i>
Carol Jaeger		<i>the Master of Data Science be approved.</i>

Approved

FACULTY OF LAW / PETER A. ALLARD SCHOOL OF LAW DEGREE PARCHMENTS

Paul Harrison
Catherine Dauvergne

}

That the Senate direct the Registrar to use “Peter A. Allard School of Law” in place of “Faculty of Law” on degree parchments and other graduation material if so requested by the Faculty.

Senator Harrison noted it was an unusual request for Senate to consider. He advised that while Senate had policies on how to change the academic information on parchments, no policy had been developed on the use of Senate-approved alternate names on degrees. The Senate Academic Policy Committee was recently informed that as part of the gift agreement the alternate name would appear on degrees, but regrettably this was not brought to Senate’s attention when the alternate name was approved. The proposed motion is to correct that error.

Approved

Use of Animals in Research at UBC

Animal Defence and Anti-Vivisection Society of BC (ADAV)

Ms Lauri-Leah Shaw, president of ADAV presented to Senate. She noted that the ADAV Society was formed in 1927. The Society strives to alert the public. The ADAV society presented a petition to UBC in 2014 with over 21000 signatures calling for an end to Categories D and E animal research, and for UBC to become a leader in reallocated energies from animal research to more innovate health research and education. She noted that Dr Jane Goodall, a renowned primatologist, had described animal experimentation as a “betrayal of the scientific method” that UBC alumnus and professor emeritus, Dr David Suzuki, had been vilified by researchers for his documentary on animal experimentation, and that Mohandas Gandhi viewed vivisection has a crime. She encouraged UBC to adopt what she described as “21st century evidence-based medicine” versus 19th century animal experimentation.

Ms Shaw noted that UBC was evolving. In 2010 UBC, at AVAD’s urging, UBC started to release statistics on animal experimentation. From those statistics, she noted that 182000 animals were used last year with some fluctuations each year and uncertainty if that was indicative of UBC re-using animals where possible. Ms Shaw noted that UBC’s facilities are examined every 3 years on 30 days’ notice and that the Canadian Council on Animal Care (CCAC) had concerns regarding a lack of clear endpoints for projects. Ms Shaw further added her own concerns included UBC not investing enough effort before seeking an animal use protocol, and UBC’s peer review committee being composed of 10 fellow scientists in the past, as well as UBC’s refusal to identify the current committee members (especially those from the community), despite the Freedom of Information and Privacy Commissioner adjudicating that it should do so.

Ms Shaw then noted that Sean Eckles from the BCSPCA has resigned from the ACC committee and hasn’t been replaced by anyone as a devoted advocate for animal welfare. She then went on to highlight Dr Andre Menach’s concerns that UBC needed an independent external review

system for animal research proposals that included scientists with knowledge of animal replacement methods as well as veterinarians.

Dr Shaw then listed a variety of other concerns, including:

- Alternate housing does not meet standards.
- UBC won't release information like Langara does regarding sourcing of animals.
- CCAC does not have jurisdiction over animal suppliers.
- The university is failing to respect the diversity of cultures, religions, and ethical beliefs that make up our society – students are being made to take part in dissections, donors and tax payers are unwitting accomplices in the torment of animals – this is no way for a forward institution to behave.
- UBC's Animal Care Committee meets 15 times a year, but has an average of 59 protocols to review at each meeting.
- Why there was a 3.8% of cat d research this year.

Ms Shaw concluded by suggesting that UBC was failing to adhere to the “3 Rs” for animal experimentation – reduction, refinement, and replacement.

The University Veterinarian and the Associate Vice-President Research

Dr Helen Burt, Associate Vice-President Research, noted that as a globally-ranked top research university, we are proud and supportive of the scientists who conduct animal research with the goal of saving lives. UBC has a public website that provides many examples and case studies of the ways that UBC researchers use animals. Researchers at UBC have made countless breakthroughs She suggested that no computer model or petri dish can replace a complex living animal, and noted that since 2011 UBC has been the first and only academic institution to take a pro-active approach to releasing information on animal testing.

Dr Ian Welch, University Veterinarian, then provided more in-depth information on governance processes around animal research at UBC. He noted that a basic tenet of caring for animals is that all animals have the right to medical care including research animals. We have the same expectations for our care of these animals as vets do when treating pets. A priority in our system is maintaining 3rd party arm's length oversight and we do that through the use of animal care and veterinary care technicians. If those persons see anything troubling with an animal they are directed to contact veterinary staff, not research staff.

The Veterinarian noted that wherever possible we would choose to use non-animal research, and to use them is a privilege not a right. UBC has a certificate of good animal practice from the CACC, which is a condition of our tri-council grants.

Dr Welch concluded by noting that the animal care committee is not just a committee of scientific peers, it also has community members and veterinary members, as well as students, technicians, and non-animal using faculty members. Decisions are made by consensus.

Discussion

Senator Keown said that he had been in medical research for a long time, and that no one involved in such research would do so if there were any alternatives; everyone tried to use all alternatives and to minimize use. If it was possible we would avoid it and use computer models. He suggested that such a day would come, but that technology was simply not there yet.

Ms Anne Birthistle said that there are computer modeling systems used elsewhere, and that their insufficiency was an entrenched perspective amongst those who use animals.

Senator Sapollnik asked what typically happened to animals when the experiment was completed.

Dr Welch replied that they typically are euthanized so that they could be further studied.

Senator Baimbridge asked for clarification to ACC policies around grants – is a certificate needed?

Dr Burt replied that no grants are made available unless all needed approvals have been granted. You can get a grant while a protocol is pending, but no money can be issued until all requirements have been satisfied.

Ms Shaw replied that being given the grant prior to the protocols being approved was backwards.

Dr Welch replied that the proposal must be scientifically valid; the protocol is irrelevant if the idea isn't any good.

Ms Shaw asked how the ACC committee could look at 889 protocols over 15 meetings in a year. How could anyone pay detailed attention to that?

Dr Welch replied that there are 20 protocols on average reviewed, the rest are amendments.

Dr Burt replied that the number of hours that goes into an assessment is likely 10:1 for pre-review.

Dr Welch added that there was an increase in veterinarian staff to help with proposals.

Dr Rucker asked how many distinct facilities we had and how frequently are they visited and by whom.

Dr Welch replied that we reviewed facilities on a risk-based system. We adjust the frequency based on need. We also have a full-time auditor.

Ms Shaw asked about the 56 independent facilities on campus.

Dr Burt replied that there are 18 facilities with UBC oversight, and this includes 4 hospital sites, the aquarium, etc. We have worked to close facilities that were substandard. She noted that UBC had spent over \$160 million on this over the past 5 years.

Ms Shaw asked about the primate facility concerns from the CCAC.

Dr Welch advised that we will be receiving their report in 6 weeks.

Admissions Committee

The Vice-Chair of the Senate Admissions Committee, Mrs Carol Jaeger, presented.

BACHELOR OF FINE ARTS – CHANGES IN ADMISSION REQUIREMENTS

Carol Jaeger	}	<i>That Senate approve revised admission and transfer requirements for applicants to the Bachelor of Fine Arts program, effective for entry to the 2017 Winter Session and thereafter.</i>
Lance Rucker		

Mrs Jaeger advised that a small portion of the seats would be made direct entry as opposed to BA transfers.

Approved

GRADUATE DOCTOR OF PHARMACY – SUSPENSION OF ADMISSION

Carol Jaeger	}	<i>That Senate approve suspension of admission to the Graduate Doctor of Pharmacy program, effective for the 2016 Winter Session and thereafter.</i>
Richard Anstee		

Approved

UBC-LANGARA ABORIGINAL TRANSFER PARTNERSHIP (ATP): BACHELOR OF APPLIED SCIENCE

Carol Jaeger	}	<i>That Senate approve admission requirements for applicants to the Bachelor of Applied Science program via the UBC-Langara Aboriginal Transfer Partnership, effective for entry to the 2016 Winter Session and thereafter.</i>
Richard Anstee		

Approved

Awards Committee

See Appendix A: Awards Report

Dr Nancy Perry, committee member, presented on behalf of the Awards Committee.

INTERNATIONAL VARSITY AWARDS

Nancy Perry	}	<i>That Senate approve and forward to the Board for approval, the International Varsity Award as attached.</i>
Catherine Dauvergne		

Approved

NEW AND REVISED AWARDS

Nancy Perry	}	<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>
Richard Tees		

Approved

Curriculum Committee

Dr Peter Marshall, Chair of the Senate Curriculum Committee, presented.

CURRICULUM PROPOSALS FROM THE FACULTIES OF ARTS, EDUCATION, GRADUATE AND POSTDOCTORAL STUDIES, LAND & FOOD SYSTEMS, AND SCIENCE

See Appendix B: Curriculum Report

Peter Marshall	}	<i>That the new courses, new programs, revised program, and revised transcript language brought forward by the faculties of Arts, Education, Graduate and Postdoctoral Studies (Land and Food Systems), Land and Food Systems, and Science be approved.</i>
Lance Rucker		

Dr P. Marshall summarized the material presented: from Arts 6 new courses and a new major/minor, from Education a change to the specialization terminology, from Graduate Studies a major revision to the Master of Food and Resource Economics, from Land and Food Systems 3 new courses and 6 new courses, and a new combined major from Science.

Senator Loewen asked about CPSC 103; noting that it was only half the usual number of lecture hours with the rest being made up of other activities.

Senator Harrison advised that it was a blended learning course with considerable requirements outside of the scheduled class time.

Senator Lam asked if CPSC 110 would be a course for computer science students only

The Registrar agreed to have an answer for this question at the next meeting.

Approved

Joint Report of the Academic Policy, Admission, and Curriculum Committees

The Chair of the Senate Curriculum Committee, Dr Peter Marshall, presented.

AFFILIATION WITH YALE UNIVERSITY FOR THE M.B.A/M.A.M DUAL DEGREE PROGRAM OPTION

Peter Marshall
Robert Helsley

} *That the memorandum of understanding between UBC's Faculty of Commerce and Business Administration and Yale University's School of Management be approved;*

That the new Master of Business Administration (M.B.A.), UBC, and Master of Advanced Management (M.A.M.), Yale University, dual degree program option be approved.

Approved

Joint Report of the Senate Admission and Curriculum Committees

The Chair of the Senate Curriculum Committee, Dr Peter Marshall, presented.

UNDERGRADUATE PROGRAM-MASTER OF MANAGEMENT DUAL DEGREE PROGRAM OPTION

Peter Marshall Robert Helsley	}	<i>That the revised continuation requirements for the Undergraduate Program-Master of Management Dual Degree Program Option brought forward by the Faculty of Commerce and Business administration be approved.</i>
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Senator Anstee noted that he had concerns when the program was established as a direct entry program. He suggested that it was hopeless to try to identify high school students for success in graduate school. The proposal that was originally passed had some safeguards to ensure that students met certain requirements for advancement, namely a 76% continuation requirement. This proposal would reduce that average to 72% in year 2 and this could be problematic.

With permission of Senate, Dr Kin Lo of Commerce spoke. He acknowledged that high school grades were an imperfect measure but so were university grades. The proposal recognized that performance did vary over time. As a test, we analyzed the performance of students in a participating program and the variance was acceptable. The 76% continuation requirement will inadvertently kick out students who will end up qualifying by the 76% final required average.

Dr Rucker asked why 72% in particular.

Dr Lo replied that given student variance, a 4% buffer was a sufficient number.

A student senator asked if students at risk for discontinuation would be monitored and warned?

Dr Lo replied yes, students in that 4% range would be pro-actively contacted and assisted.

In response to a question from Dr Rucker, Dr Lo replied that students would need to raise their average in year 4 if low in year 3

Approved

REVISIONS TO MASTER OF ARTS IN PLANNING AND MASTER OF SCIENCE IN PLANNING DEGREE PROGRAMS

Appendix C: Planning Graduate Degrees

Peter Marshall Carol Jaeger	}	<i>That the revised Master of Arts in Planning and Master of Science in Planning degree programs and their associated new courses brought forward by the Faculty of Graduate and Postdoctoral Studies (Applied Science) be approved.</i>
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Dr Marshall noted that the Masters of Arts and Science in Planning were long standing programs that initially were research-focused but have become more professionally focused over time, and now are not doing an exceptional job for research nor for the profession. As a result, a few years ago Senate approved the Master of CRP which serves the professional need and the intake to the two existing programs were suspended with the intention of reviewing and revising the existing programs to restore their research orientation.

Approved

Ad Hoc Committee on Flexible Learning

AN ENHANCED LEARNING PROFILE

Former Senator Aaron Bailey presented. He advised that for the past year, the committee had been discussing flexible, experimental learning and how UBC recognized such activities. Mr Bailey noted that experiential learning was a key priority for UBC, and that learning can happen everywhere at UBC, not just in the formal setting of a classroom. He noted that one approach taken by other institution is the notion of a “Co-Curricular Record”. The Committee looked at that approach but viewed that as an accounting system and not as a dynamic approach as they existed in a vacuum as being supplemental to existing official transcripts.

Dr Kate Ross noted that the Lumina Foundation was funding interesting developments in the US to produce records that identify, reflect on, demonstrate, communicate and validate learning in and beyond the classroom. As a result of such a tool they can identify, reflect on, demonstrate, and communicate and validate to others in a meaningful way. Beneficiaries could be employers, graduate schools UBC recruitment and retention and the students themselves.

The Committee then put four questions to Senate to open debate:
Questions

- What learning should UBC value as an institution?
- How should UBC recognize this learning?
- Whose needs does this fulfill?
- Who needs to be involved?

Dean Averill suggested that the difficulty will be in determining what makes it, how we make those determinations. This would support the innovations we have been doing with our current students as well as trends for the future.

Senator Anstee said that from a distance this looked like a resume, but that he suspected students were looking for a particular form of institutional validation, and this seemed daunting. He noted

that at present we do so through grades, letters of reference, and posting work when appropriate. Doing more than that would be a big challenge.

Dr Ross suggested that this was a matter of getting a balance right.

Former Senator Omassi said that students found skills that aren't assessed in the classroom as being important. She suggested that something like 60% of our students take more than 4 years, and 50% of those students cited other experiences as the reason. Students come to UBC for more than just academics and thus sort of tool would validate those activities.

Senator Harrison suggested that pre-validation would be work done by students, and doing so may help students make more sense of their academic programs and the relationships between their experiences. Our part in validation is daunting but slightly easier as a result.

Senator Thorne was supportive of the idea but suggested that it was easier to document things rather than skills or learning and this opportunity thus also presented a risk; we notice this problem with broad based admission. As soon as a system is created people learn to game it. We have to maintain the integrity of anything UBC certifies.

Senator C. Marshall stated that understood the desire but had a few concerns: Firstly, establishment voices and activities being deemed as appropriate or not, and thus not being reflected. Secondly, a well-written CV could replicate many of the examples given and thus this may not have much utility. Thirdly, was the university relationship important in considering things to be included? If so, this risks giving the university an imprimatur on activities being appropriate or not.

A student senator said she initially viewed this as a CV adjunct - a helpful tool but not something that needs to be all encompassing. She asked how this was similar to eportfolios used in nursing and the MD program.

Mr Bailey replied that undergraduate students in Arts also did portfolios, and we have looked at them.

Reports from the Provost

2016-2017 UNIVERSITY BUDGET

The Provost *Pro Tem.*, Dr Angela Redish, noted that the University budget summary was available online. This includes the operating and consolidated budgets along with the endowments and other detailed information.

Dr Redish outlined the consultative process used to create the budget starting last November. We then discussed the budget as the driver for the strategic goals of the University. "Final" Board approval was granted on 14 April; however, on March 31st the arbitration report for UBC and the Faculty Association was issued and this indicated 2% increases for 2014 and 2015 for faculty association members. The Province agreed to fund increases if we followed the PSEC mandate. This mandate was 0% in year 1 and 1% in year 2. This means there are a large amount of faculty

salary increases that we need to find funding for. This is roughly \$17 million for retroactive salary increases and \$12 million ongoing. As a result, the board approved the budget in principal but we need to return to the board in June with how we will address this.

The Provost noted that our aspiration is to be the best university in Canada. To do that we need resources for faculties, infrastructure for research and student experience, and to make focused investments in areas of strength. She noted that even before the arbitration we were in a constrained environment. Our grant went down last year and was flat this year, and tuition for domestic students is only allowed to increase at 2% a year, which is below inflation. To some extent, some faculties can make new revenues by admitting more international students, or offering new continuing education programs, but the ability of some faculties to do either is non-existent or limited.

Dr Redish did not that some new funding was available as the Provincial Government has been interested in investing in small capital improvements, and the Federal government was interested in funding infrastructure improvement.

Based upon the work done to construct the budget prior to the arbitration award, Dr Redish advised that that \$27 million was available for new allocations. Of that \$5 million was already committed in previous years, \$9 million was put towards core serveries, \$8 million for strategic investments, \$2 million for risk areas, and \$3 million for a central contingency.

Dr Redish then went on to describe the “UBC Excellence Fund” established with \$6 million this year and to increase to \$32 million by Fiscal Year 2018. Key principles for this fund were:

- Excellence
- Sustainability
- Strategic Nimbleness
- Effectiveness
- Openness
- Accountability
- Transparency

As priorities for funding, plans were firstly to invest in people, secondly in research support, and thirdly in the teaching and learning environment. Funds will be approved by the Board on an annual basis and evaluated at the end of the year. This year’s allocations are \$ 500 000 for student recruitment and retention, \$2.4 million for faculty recruitment and retention, 2 million for research clusters, and \$500 000 for experiential learning.

Dr Redish noted that we reported our budget to the Province as consolidated not operating, and on GAAP. There are two key differences – endowment returns, and depreciation/capital investments.

For next steps, UBC needs to sort out what we won’t do that we thought we could to pay for faculty salary increases. Secondly, we try to balance our operating budget and are legally required to balance our consolidated budget, but beyond that we need to discuss what principles

should be behind our budget. Finally, we can look at benchmarking across the University and across other universities (Russell group, group of 8 in Australia, etc).

Senator Williams asked about the Scholars Community and what funding would go towards international students given that much of it would be paid for from international fees.

The Provost replied that this mostly would be for domestic students because it was based on the successful scholars' community for international students.

Senator Williams asked how we were supporting experiential learning when international service learning has been cut.

The Provost replied that we needed to find funding to support it. We did cut it last year but we have listened to people to raised concerns.

Adjournment

There being no further business, the meeting was adjourned at 8:20 pm.

Appendix A: Awards Report

New Centennial Scholars Entrance Awards:

Madame Rosa BOK-FALKSON Centennial Scholars Major Entrance Award in Opera – A \$4,000 renewable entrance award is offered annually to an outstanding domestic student entering the Opera Program directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. The award is in memory of Mme. Rosa Bok-Falkson, distinguished Opera singer, known as the Nightingale of Hamburg. Criteria for this entrance award includes demonstrated academic and leadership achievement in the arts, community, athletics, or school, and extraordinary performance capability based on experience and an audition to the Opera Program. The recipient is an academically qualified student with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. Only one student can hold this award in any given year. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee and subject to an exceptional audition to the Opera program. (First Award Available in the 2016/2017 Winter Session)

FERNANDEZ Family Centennial Scholars Major Entrance Award – A \$4,000 renewable entrance award is offered annually by Darran Fernandez to an outstanding domestic student entering university directly from secondary schools in Canada, 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. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. Only one student can hold this award in any given year. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session).

Diana M. LAM Centennial Scholars Entrance Award – A \$4,000 entrance award is offered annually by alumna Diana M. Lam, BA 1956, to an outstanding domestic student entering university directly from secondary schools, or a transferring directly from other colleges and universities, in Canada or abroad. Criteria for this entrance award includes demonstrated academic and leadership achievements in the arts, community, athletics, or school. The recipient will be an academically qualified student with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Candidates must be nominated by a member of their school or community. The award is made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

TOWNSEND-HARDER Centennial Scholars Major Entrance Award in Trumpet – A \$4,000 renewable entrance award is offered annually by UBC Music alumni Laurie Townsend (BMus 1988) and Don Harder (BMus 1978), to an outstanding domestic student entering the Bachelor of Music directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad, and whose primary instrument is trumpet. Criteria for this entrance award includes demonstrated performance proficiency as well as academic and leadership achievement in the arts, community, athletics, or school. The recipient is an academically qualified student with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. Only one student can hold this award in any given year. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee and subject to an exceptional audition to the Bachelor of Music program. (First Award Available in the 2016/2017 Winter Session)

New Awards:

Leon Judah BLACKMORE Award in Criminal Law - A \$5,000 award is offered annually by the Leon Judah Blackmore Foundation to a second- or third-year J.D. student who has participated in the UBC Innocence Project at the Peter A. Allard School of Law and has demonstrated an interest in criminal law reform and a dedication to advocacy work throughout his or her legal studies. The award is made on the recommendation of the Director(s) of the UBC Innocence Project at the Peter A. Allard School of Law. (First Award Available in the 2015/2016 Winter Session)

Tina CHRISTOPOULOS CRUDO Scholarship in Education - A \$1,000 scholarship is offered annually for a student in the Kindergarten – Primary Program Cohort of the teacher education program who demonstrates academic excellence. The scholarship is created in loving memory of Tina Christopoulos Crudo, who was a passionate teacher and who had a positive impact on countless students during her twenty-year career as an educator. The award is made on the recommendation of the Faculty of Education. (First Award Available in the 2016/2017 Winter Session)

DESAI Graduate Scholarship in English Literature – A \$1,000 scholarship is offered annually to a Masters of Arts, English Literature student in loving memory of Mr. J.V. Desai, who was a humble and brilliant man whose first love was for the English language. He was a grand-nephew of Mahatma Gandhi and a loving father who emphasized the importance of education, both in the theoretical and experiential sense. He recognized the importance of learning through travel and interacting with people. The ideal candidate would demonstrate an interest in travel and may be an international student or someone whose thesis investigates global issues. The award is made on the recommendation of the Department of English, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

GAMMA Phi Beta Foundation Service Award – A \$1,000 award is offered annually by the Gamma Phi Beta Sorority to a student who demonstrates service on campus or in the community.

Preference will be given to applicants who are members of Gamma Phi Beta. The award is adjudicated by Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

GERVIN Indigenous Community Legal Clinic Award for Distinguished Advocacy – One or more awards totalling \$1,000 are offered annually to J.D. students who have made an exceptional contribution to the Indigenous community, demonstrated an interest in Indigenous legal studies and proven dedication to advocacy work throughout their participation in the Peter A. Allard School of Law's Indigenous Community Legal Clinic. The award is made on the recommendation of the Director(s) of the Indigenous Community Legal Clinic at the Peter A. Allard School of Law. (First Award Available in the 2015/2016 Winter Session)

Frank READ Thunderbird Rowing Award – One or more awards totalling \$1,000 have been made available through an endowment established for rowing athletes in memory of Frank Read, a beloved UBC and Olympic rowing coach. The awards celebrate Read's tireless work in proving that excellence in sport was a realistic objective for Canadians. The awards are offered to outstanding members of the Thunderbird Rowing Team who have maintained good academic standing. The recommendation is made by the Rowing coaches. (First Award Available in the 2016/2017 Winter Session)

Gordon and Gladys SHERLOCK Prize – Prizes totaling \$40,000 have been made available through an endowment established with a bequest by the Estate of Gladys Sherlock. The prizes are offered to students in the Faculty of Education specializing or majoring in Counselling. At the present time, the prizes are available to students in the Department of Educational and Counselling Psychology and Special Education enrolled in the Master of Arts, Master of Education and Doctor of Philosophy programs. Successful applicants must hold a Bachelor of Education. The prizes shall be announced and awarded to students prior to their graduation. Gladys Sherlock (1922-2015) began her teaching career at the age of 15 in Newfoundland. In 1960 she graduated from UBC with a Bachelor of Arts. She worked for many years as a guidance counsellor in several local schools, including Austin Elementary and Sir Frederick Banting Junior Secondary. Gordon Sherlock was Mrs. Sherlock's husband and predeceased her in 2008. The award is made on the recommendation of the Faculty of Education in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

UBC Inter-Fraternity Council Bursary - A \$1,000 bursary is offered annually by the UBC Inter-Fraternity Council to undergraduate students, with preference given to a student in the UBC Fraternity system. The award is given based on financial need to students actively involved in the UBC Inter-Fraternity Council. The award is adjudicated by Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

Trevor WATSON Award in Pharmaceutical Sciences – A \$1,000 award has been made available through an endowment established by Christine Lee, B.Sc. Pharmacy 1975, and the Watson Family to honour Trevor Watson, B.Sc. Pharmacy 1957. This award is offered to an undergraduate student in the Faculty of Pharmaceutical Sciences who demonstrates a keen passion for the betterment of their community and for the profession of pharmacy. While deeply dedicated to his family, church, and community, Mr. Watson remained an exemplary pillar of service and leadership in the development of the profession of pharmacy in British Columbia and

Canada. Alongside being a practicing pharmacist for over 40 years, Trevor was a member of the 1966/67 B.C. Pharmacy Planning Commission and one of the primary proponents in the establishment of the B.C. Professional Pharmacists Society, the current B.C. Pharmacy Association (BCPhA). He has served as President for both the College of Pharmacists of B.C. and the Canadian Pharmacists Association (CPhA), and is a honorary life member of the BCPhA and the CPhA. Trevor was a part-time Clinical Instructor/Lecturer at the Faculty from 1971-1991, and has been a committed mentor to young graduates. The award is made on the recommendation of the Faculty of Pharmaceutical Sciences. (First Award Available in the 2016/2017 Winter Session)

Previously-Approved Awards with Changes in Terms or Funding Source:

#1011 Association of Women in Finance Graduate Award in Business – A \$2,500 academic award is offered annually by the Association of Women in Finance to a female student enrolled in the MBA program who demonstrates academic excellence and a history of community service. Financial need may be considered. The award is made on the recommendation of the Sauder School of Business.

Rationale for Proposed Changes – Type of Action: Upon the donor's request, we have changed award type, so that financial need could be considered and we have simplified the selection criteria by removing reference to future plans; the donor has also requested to increase the award value.

Previously-Approved Centennial Scholars Entrance Awards: Clarification of Eligibility Criteria:

Peter Marshall Centennial Scholar Entrance Award in Forestry - A \$2,000 renewable entrance award is offered annually by Dr. Peter Marshall to outstanding domestic under-represented students, such as Aboriginal students, students from rural communities, immigrant and refugee students, first generation learners, youth aging out of care, and students of low socio-economic status, entering the Faculty of Forestry's Bachelor of Science in Forestry, Forest Sciences, Natural Resources Conservation, or the Bachelor of Urban Forestry degree programs 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. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

Rationale for Proposed Changes – Type of Action: to clarify eligibility for the award

#4697 Centennial Scholars Entrance Awards – The University of British Columbia offers entrance awards valued up to \$10,000 to outstanding domestic students entering university 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. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

Rationale for Proposed Changes – Type of Action: to clarify eligibility for the award

#4698 Centennial Scholars Major Entrance Awards – The University of British Columbia offers renewable entrance awards valued up to \$40,000 over 4 years to outstanding domestic students entering university 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. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

Rationale for Proposed Changes – Type of Action: to clarify eligibility for the award

Appendix B: Curriculum Report

FACULTY OF ARTS

New courses and new major and minor programs

CNTO 451 (3) Advanced Cantonese through Popular Culture; Arts>Bachelor of Arts>First Nations and Endangered Languages>[Major] & [Minor] in First Nations and Endangered Languages Program; FNEL 381 (3) Biocultural Diversity: Language, Community, and the Environment; FNEL 382 (3) Lexicography for Endangered Languages; FNEL 389 (3) Collaborative Heritage Research in First Nations Languages: Practicum & Workshop; FNEL 481 (3) Heritage Resources in Endangered First Nation Language Revitalization; FNEL 482 (3) Applied Research in Endangered Language Reclamation

FACULTY OF EDUCATION

Revised transcript language

Transcript language for Bachelor of Education

FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

Revised program and new courses

Land and Food Systems

Graduate and Postdoctoral Studies>Degree Programs>Agricultural Economics>Master of Food and Resource Economics>Program Requirements; FRE 504 (1.5) Agricultural and Resource Policy Analysis; FRE 505 (1.5) Agricultural and Resource Policy Analysis – Policy and Project Evaluation Tools; FRE 517 (1.5) Futures Trading in Agricultural Commodities; FRE 518 (1.5) Survey Design and Data Analysis; FRE 523 (1.5) Resource Economics I; FRE 524 (1.5) Resource Economics II; FRE 526 (1.5) Environmental Economics and Policy: Theory; FRE 527 (1.5) Environmental Economics and Policy: Empirical Analysis; FRE 529 (1.5) Estimating Econometric Models; FRE 530 (1.5) Econometrics with Time Series Data; FRE 541 (1.5) Project Monitoring and Evaluation in International Development

FACULTY OF LAND AND FOOD SYSTEMS

New courses

APBI 222 (3) Introduction to Horticulture; FNH 405 (3) Microbiology of Food & Beverage Fermentation; FNH 472 (3) Maternal and Fetal Nutrition

FACULTY OF SCIENCE

New courses and new combined major program option

CPSC 100 (3) Computational Thinking; CPSC 103 (3) Introduction to Systematic Program Design; CPSC 436 (1-6)d Topics in Computer Science; ENVR 440 (3) Analytical Methods in Sustainability Science; EOSC 213 (3) Computational Methods in Geological Engineering; EOSC 471 (3) Waves, Currents and Ocean Mixing; Science>Bachelor of Science>Computer Science>Specializations>Combined Major: Computer Science and Chemistry

Appendix C: Planning Graduate Degrees

FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

Applied Science

Revised program and new courses

Graduate and Postdoctoral Studies>Degree Programs>Planning>[Master of Arts in Planning] & [Master of Science in Planning]; PLAN 558 (3) The Role of Theory in Planning Research; PLAN 559 (3) Design of Planning- and Policy-oriented Research; PLAN 560 (1) Master's Thesis Workshop



18 May 2016

To: Vancouver Senate
From: Council of Senates Budget Committee Vancouver Sub-Committee
Re: **Annual Report** (information)

Please find attached the 2015-16 Annual Report of the activities of the Council of Senates Budget Committee Vancouver Sub-Committee.

If you have any questions, please contact Christopher Eaton at christopher.eaton@ubc.ca.

Respectfully submitted,

Dr. Ken Baimbridge, Chair

Council of Senates Budget Committee Vancouver Sub-Committee



Council of Senates Budget Committee Vancouver Sub-Committee

Report to Senate – May 18, 2016

Budget Committee Terms of Reference

The Budget Committee shall:

“meet with the President and assist in the preparation of the University budget; and make recommendations to the President and to report to the Okanagan and Vancouver Senates at least annually concerning academic planning and priorities as they relate to the preparation of the University budget.”

In advising the President on the University budget, the Budget Committee may request information on any of the University's fund accounts.

Background

This is the 2015/16 annual report of the Vancouver Senate Budget Sub-Committee (SBSC). The Budget Committee is a Council of Senates' committee, which has never met in a substantive way and is not scheduled to meet. The only mandate for the full committee would be to look at the distribution of funds between the campuses. However, allocations were largely agreed and ring-fenced when UBCO was formed, so there has not been a subsequent need for discussion. As with all policies, a review of the overall budget model may be done in the future. At that point the various committees involved may review their relationships and future actions.

At UBC's Okanagan Campus, the Sub-Committee's counterpart has coincidental membership with that Senate's Academic Building and Resources Committee. At the Vancouver campus, there has been discussion of combining various committees in a similar manner, but at present the committees potentially involved have chosen to retain independent paths. However, there have been some successful joint meetings this year and more are planned, principally involving the Senate Academic Building Needs Committee.

It should be noted that the SBSC has no oversight role and no power to insist on any involvement in the budgeting process. If topics of concern were identified it would bring these to the attention of Senate.

Over the past year, the Chair of the SBSC has met on a regular basis with the Vice-President of Finance, Andrew Simpson, to jointly set the agendas for the meetings. This has allowed for both the



SBSC and the Office of the Vice-President Finance to bring forward priority items.

Activities

Although our mandate is to “meet with the President” this has only rarely happened. More usually a number of officials have represented the President including the Provost and Vice-President Academic, the Vice-President Finance, the Comptroller, the Treasurer, and the Director of Academic Initiatives from the Office of the Vice-President Academic. The President will continue to be invited to attend all of the meetings. The Sub-committee proposes that the President attend at least one meeting per year so that the Sub-committee may serve its mandate of advising the President in the preparation of the budget.

The Sub-Committee has adopted a practice of meeting just before every Senate meeting. The meeting is in two parts. It normally begins with a private meeting of the Sub-Committee members to discuss any items which should be raised with the administration. It then moves into a second phase where representatives of the administration attend. This provides a forum for ideas to be exchanged and presentations by various campus units.

A summary of this year’s meeting presentations is below:

Meeting Date	Subject	Presenters and Guests
September 9, 2015	UBC Investment Management Trust (IMANT)	Jai Parihar, Peter Smailes
	International Student Fees	Anji Redish
October 21, 2015	Profit Centres	Ian Burgess
	International Tuition Fee Update	Anji Redish
	Budget Update	Andrew Simpson
November 18, 2015 (joint meeting with the Senate Academic	Capital Planning Update on Classroom Maintenance and Upgrade Budget	John Metras, Michael White



Building Needs Committee)	Update on Vantage College Building Project	Susanne Schmiesing
December 16, 2015	Budget Model	Ian Burgess
January 20, 2016	UBC Writing Centre	Anji Redish
	Budget Presentation	Anji Redish, Andrew Simpson
	Library Presentation (joint with the Senate Library Committee)	Ingrid Parent, Melody Burton, Jo Anne Newyear Ramirez
February 17, 2016	Indirect Costs of Research	Helen Burt, Sharon Wu
	Budget Update	Anji Redish, Andrew Simpson
	SASI Update	Kate Ross, Jennifer Burns, Ian Cavers
March 16, 2016	Budget Update	Anji Redish

In general, the University is in a good financial situation compared to many peer institutions. However, the Provincial Government has cut its direct funding over the last three year, has funded only a portion of general wage increases that have been given to all bargaining units at UBC, and has continued to restrict increases in domestic tuition fees. Some of this funding gap has been met by increases in international student tuition along with increasing the numbers of international students.

In terms of some specific activities of the Sub-Committee, we did receive a draft budget in January which was earlier than in previous years. This allowed the Sub-Committee to provide input prior to the budget going to the Board of Governors for preliminary review. The Sub-Committee has also been working with the Senate Academic Building Needs Committee and the administration to look into the issue of the maintenance and upkeep of the Campus' learning spaces and the funding thereof, following the claw back of the Annual Capital Allowance from the Province several years ago.

The Student Academic Systems Initiative (SASI) has also been a topic of particular interest to the Sub-Committee. As with all large software projects, it is understood by all parties that meeting the



desires of the stakeholders at a reasonable cost is challenging. The SASI leadership team has provided updates to the Sub-committee and will continue to do so as the project advances. Much care is being applied to achieve this end and the Sub-Committee will continue to take a particular interest in this project.

The initial business plan for Vantage College discussed by the SBSC and elsewhere had as its dominant feature that it was going to be profitable with some of the potential profits from the College planned to be spent on such projects as the Biology Labs building. A building was built to house the operations (approximately \$25 million) and dormitories were built for approximately \$100 million (Orchard Commons) to help house the Vantage College and other students, with the idea that students would be spending 11 months on campus. The enrolment figures were supposed to grow from 300 students in the first year, to 650 in the second year, to 1,000 in the third year. However, these targets have not been met. The housing and classroom spaces unused by Vantage students have been reallocated but the projected revenue is well below the initial forecasts. Perhaps the lesson to be learnt here is that spending or planning to spend profits before they materialize can be a problem.

The Sub-Committee encourages input from Senate on how it how it might play a more useful role in future. In particular, changes to the terms of reference could mandate more active involvement in the budgeting process.

Conclusions

Although much of the input of the Sub-Committee remains reactive, our more interactive relationship with the Vice-President Finance, and members of his office, has enabled some items to be presented to the Sub-Committee at an early stage where we can be more proactive. Two examples include the presentation in September 2015 of the proposal to increase international student tuition fees and the early presentation in January 2016 of the draft UBC budget for 2016-17. The Sub-Committee intends to continue to find ways in which our input can be of value to the university.



18 May 2016

To: Senate

From: Academic Building Needs Committee

Re: Annual Report on the Activities of the Senate Academic Building Needs Committee

Attached please find for your information the 2015-16 Annual Report of the activities of the Senate Academic Building Needs Committee. The report follows the format agreed upon by the Committee.

Respectfully submitted,

Dr. Robert Sparks, Chair

Senate Academic Building Needs Committee

**The University of British Columbia
Senate Academic Building Needs Committee
Annual Report to Senate
September 2015- May 2016**

Members: Kenneth Baimbridge (Joint Faculties, Vice-Chair), Séan Haffey (Convocation), André Ivanov (Applied Science), Jolene Loveday (Student Member), Kaitlyn Melton (Student Member), Christian Naus (Medicine), Glen Peterson (Arts), Pam Ratner (Interim Vice-Provost and Associate Vice-President, Enrolment and Academic Facilities), Andrew Riseman (Land and Food Systems), Lance Rucker (Dentistry), Gurvir Sangha (Student Member), Robert Sparks (Joint Faculties, Chair)

Overview: This document follows the reporting procedures initiated in November 2010 for submitting a written annual report to Senate. The report summarizes SABNC meetings as well as the participation of SABNC members on the Property and Planning Advisory Committee (PPAC).

Committee Work Plan for 2015-2016

The Committee reviewed its terms of reference on September 15, 2015, and agreed to the following areas of focus and potential topics for meetings during the year:

1. The impact of flexible learning on classroom and other academic building resources;
2. The Campus as a Living Lab Initiative;
3. The interplay between building resources and mental health and well-being, including accessibility;
4. The University's informal learning spaces;
5. Student housing and the University Boulevard Gateway;

Activities in 2015-2016

During this academic year, the Committee met seven (7) times, five (5) times on its own, and two (2) times in joint meetings with the Vancouver Sub-Committee of the Council of Senates Budget Committee in November and May. SABNC members collectively participated in one (1) PPAC meeting and reviewed two (2) presentations for information.

Senate Academic Building Needs Committee (SABNC) Meetings

- 15 September 2015 – *Planning and review of Terms of Reference, relationship with PPAC, selection of areas of focus for 2015-2016*
- 18 November 2015 – Joint meeting with Budget Committee – *Capital Planning* (John Metras, Managing Director, Infrastructure Development; Michael White, Associate Vice-President, Campus and Community Planning); *Classroom Maintenance and Upgrade Budget* (Jodi Scott, Senior Planner, Facilities Planning, Infrastructure Development); *Vantage College Building Project* (Susanne Schmiesing, Director, Development & Operations, UBC Vantage College)
- 20 January 2016 – *Flexible Learning and Academic Building Resources* (Eric Eich, Vice-Provost and Associate Vice-President, Academic Affairs; Simon Bates, Senior Advisor, Teaching and Learning, and Academic Director, Centre for Teaching, Learning and Technology; Jeff Miller, Senior Associate Director, Flexible Learning Initiatives, Centre for Teaching, Learning and Technology; Marianne Schroder, Associate Director, Course and Learning Technologies, Centre for Teaching, Learning and Technology; Jodi Scott, Senior Planner, Infrastructure Development)
- 23 February 2016 – *Campus as a Living Lab* (James Tansey, Executive Director, Centre for Social Innovation & Impact Investment, Sauder School of Business, Executive Director, UBC Sustainability Initiative; Alberto Cayuela, Director, Operations and Business Development, Centre for Interactive Research on Sustainability)
- 22 March 2016 – *Campus and Community Planning: Annual Review of Public Engagement Charter* (Michael White, Associate Vice-President, Campus and Community Planning; Gabrielle Armstrong, Senior Manager, Public Engagement, Campus and Community Planning)
- 11 April 2016 – *Flexible Learning Spaces Tour* (Jodi Scott, Infrastructure and Development)
- 18 May 2016 – Joint meeting with Budget Committee – *Provincial Funding for Deferred Maintenance, Current Priorities for Capital Projects, Identification of 'Shovel-Ready' Project* (John Metras, Managing Director, Infrastructure Development).

Property and Planning Advisory Committee (PPAC) Meetings

Information: (Presenters)

19 April 2016 – *Athletics and Recreation Facilities Strategy* (Kavie Toor, Director, Facilities and Business Development, Athletics; Joanne Proft, Manager, Community Planning, Campus and Community Planning); *Capital Projects Update* (John Metras, Managing Director, Infrastructure Development)

Comments:

- The Committee is pleased to report that University classroom maintenance and upgrades are continuing to move forward. The 2015-2016 budget allocated \$1,000,000 in addition to the \$1,500,000 typically devoted to this purpose, much of which was invested in classroom audio/visual technology. Infrastructure Development also received approximately \$475,000 for accessibility upgrades. These funds have been allocated to the installation of 23 automatic door openers. The Committee supports Infrastructure Development's plan to seek similar funding this year, which will be used to install additional automatic door openers.
- The Committee also actively supports the leadership role that Facilities Planning is taking in the integration of flexible learning into classroom design and was pleased by their commitment to consultation and working with the Faculties. The Committee agrees with the current priorities set by Facilities Planning, including updating learning space design guidelines to facilitate flexible learning, audio/visual upgrades, wifi network enhancement, and lighting and furniture upgrades to meet wellness and mobility needs.
- The Committee felt there is an opportunity to incorporate flexible learning initiatives into the University's 'campus as a living lab' commitment, including the evolving commitment to integrate flexible learning into classroom design. The University's campus wellness initiative is a second and related opportunity, and integrates well with the University's commitment to environmental and social sustainability.
- Challenges - Government funding for academic building maintenance and upgrades continues to be limited and there is a continuing need both to encourage further government annual support and to look for alternative sources of funding. The Committee is encouraged by the expansion of Provincial Government funding for routine capital expenditures noted in the 2016-17 UBC Operating Budget (\$40m in 2016/17, \$42m in 2017/18 and \$60m in 2018/19), as well as the intention expressed in the Budget to focus capital expenditures on deferred maintenance associated with UBC's teaching and learning facilities.



18 May 2016

To: Vancouver Senate

From: Senate Academic Policy Committee

Re: **a. Creation of Global Research Excellence (GREx) Institutes**
b. Establishing the Quantum Matter Institute as a Global Research Excellence Institute

a. Creation of Global Research Excellence Institutes

The Provost has proposed the creation of a new category of institutes and centres: Global Research Excellence (GREx) Institutes and Centres. These institutes and centres would be well-funded, high-profile, and world-class with the goal of advancing excellence in research and integrating fundamental and translational research. Key features of GREx institutes and centres are listed in the attached document.

The proposal is consistent with the current Senate policy on the [status of institutes and centres](#). Should the proposal be approved, the new class of institutes and centres would be incorporated into the policy.

The Senate Academic Policy Committee is pleased to recommend:

Motion: *“That Senate approve and recommend to the Board of Governors the establishment of Global Research Excellence (GREx) Institutes and Centres, to be housed within a faculty or group of faculties, effective July 1, 2016.”*

b. Establishing the Quantum Matter Institute as a Global Research Excellence Institute

The Provost has proposed that the Quantum Matter Institute (QMI) of the Faculty of Science be designated as a Global Research Excellence Institute. The QMI is recognized for world-class research excellence which is reflected in its eight Canada Research Chairs, exceptionally high impact publication metrics, major national and international awards, and international partnerships with the world's leading universities and research



institutes. Recently, the QMI was awarded the largest government investment in a single UBC research program to date.

Contingent on the approval of the first motion, the Senate Academic Policy Committee is pleased to recommend:

Motion: *“That Senate approve and recommend to the Board of Governors that the Quantum Matter Institute be established as a Global Research Excellence Institute, effective July 1, 2016.”*

Respectfully submitted,

Dr. Paul Harrison, Chair

Senate Academic Policy Committee

MEMORANDUM

Date: 25 April 2016

To: Senate, Vancouver

From: Angela Redish, Provost and Vice-President Academic

Re: **Creation of Global Research Excellence Institutes and recognizing the Quantum Matter Institute as the first example**

Recommendation:

I recommend that Senate approve and recommend to the Board of Governors the establishment of Global Research Excellence (GREx) Institutes or Centres to be housed within a Faculty or a group of Faculties effective July 1, 2016: and

I recommend that Senate approve and recommend to the Board of Governors that the Quantum Matter Institute become the first Global Research Excellence effective July 1, 2016.

Background

UBC Institutes and Centres are constituted under Senate guidelines and exist within one disciplinary Faculty or an affiliation of Faculties. Institutes or Centres have the following characteristics:

1. foster ongoing graduate programs of collaborative research and teaching of an inter-Faculty, interdisciplinary nature, and serve as incubators for nurturing such programs;
2. bring together a critical mass of scholars from several disciplines and areas of specialization;
3. may exist for an extended period of time;
4. offer an institutional platform from which to apply for grant support or for financial support outside of UBC;
5. provide a means of fostering cooperation between scholars in the same research area at other universities, institutions, community, private sector, etc.;
6. provide a means to sponsor and organize interdisciplinary lectures, conferences, symposia, colloquia and workshops; and
7. attract post-doctoral fellows, visiting professors, adjunct professors and other scholars wishing to undertake interdisciplinary research at UBC.

Governance of Institutes and Centres at UBC have been previously defined:
(see <http://senate.ubc.ca/vancouver/policies/status-institutes-centres>)

Nothing in this memorandum changes the previously approved policies.

Proposal

It is proposed to create a new category of Institutes or Centres (Institutes will be used in this document, but should be understood to include Centres), termed Global Research Excellence (GREx) Institutes. The goal of GREx Institutes is to advance excellence in research, to integrate fundamental and translational research, and to allow these Institutes to realize their full potential for excellence and impact.

The GREx Institute model aims to integrate the philosophies and proven best practices of world-leading research organizations such as the Michael Smith Laboratories at UBC (“...a strong emphasis on interdisciplinary interaction and overlap of interest...”), the Max Planck Institutes (“insight must precede application”), the Broad Institute of the Massachusetts Institute of Technology and Harvard (“Act nimbly, Work boldly, Share openly, Reach globally”), the Fraunhofer Institutes (“Dedicated to the future..”).

In addition to the normal features and governance of Institutes and Centres at UBC, the key features of a GREx Institute are:

- They are nominated for GREx status by agreement between Director of the Institute, a Dean or Deans, and the Vice-President Research and International before a funding competition
- Formal designation as a GREx status is conditional on receiving major external funding such as the Canada First Research Excellence Fund or similar major national or international funding, and approval by Senate
- Typically multi-Faculty, although a single-Faculty unit is not precluded
- Led by a Scientific Director who reports to a Dean or Deans
- They will have the authority to recruit faculty into approved tenure-track positions within a department/Faculty to fulfill the mandate and vision of the institute
- They will have an open, flat and non-hierarchical culture that commits to equity and inclusion, to track equity metrics, measure and monitoring success
- They have an international research advisory board, and a research strategy committee,
- They monitor risks, have clear criteria for success. They must demonstrate and track excellence across key metrics, including: 1) research inputs (external funding, research chairs, scholarships and fellowships); and 2) research outputs (publications, books, awards and prizes, intellectual property, training of highly qualified personnel); and 3) impacts (academic (collaborations or partnerships), social (policy, processes, increasing quality of life, health, or creative output), and economic (industrial partners, inventions and patents, spin-off companies, licenses))
- An Institute will lose GREx designation if the criteria above are not met, or sustainable funding is not maintained
- Loss of status as a GREx Institute will be made on recommendation to Senate of a Dean or Deans and the Vice-President Research and international.
- Loss of GREx status does not preclude the unit continuing to exist if desired by a Faculty or Faculties

Quantum Matter Institute (QMI)

The QMI was approved by Senate in 2010. It is a single Faculty academic research Institute, in the Faculty of Science, housed in the Advanced Materials Process and Engineering Laboratory. The Dean of Science has senior oversight for academic matters. Most faculty members and post-doctoral fellows hold appointments in the Departments of Physics and Astronomy, and Chemistry. All appointments follow University practices and collective agreement obligations related to recruitment, tenure and promotion, the allocation of academic space, teaching and committee obligations, and financial management of research funds to individual researchers.

From its inception, the QMI has been recognized for world-class research excellence. Quantum materials exhibit a wide range of electronic and magnetic properties that will provide the foundation for future technologies the same way silicon was the basis for the microelectronics revolution. The far richer set of properties emerging in quantum materials has the potential to spark transformational innovation across advanced manufacturing, microelectronics, medicine, and sustainable energy. The QMI has eight Canada Research Chairs. Its research excellence is reflected in exceptionally high impact publication metrics, major national and international awards, and international partnerships with the world's leading universities and research institutes. The Max Planck-UBC Centre for Quantum Materials is only the third to be established outside Germany.

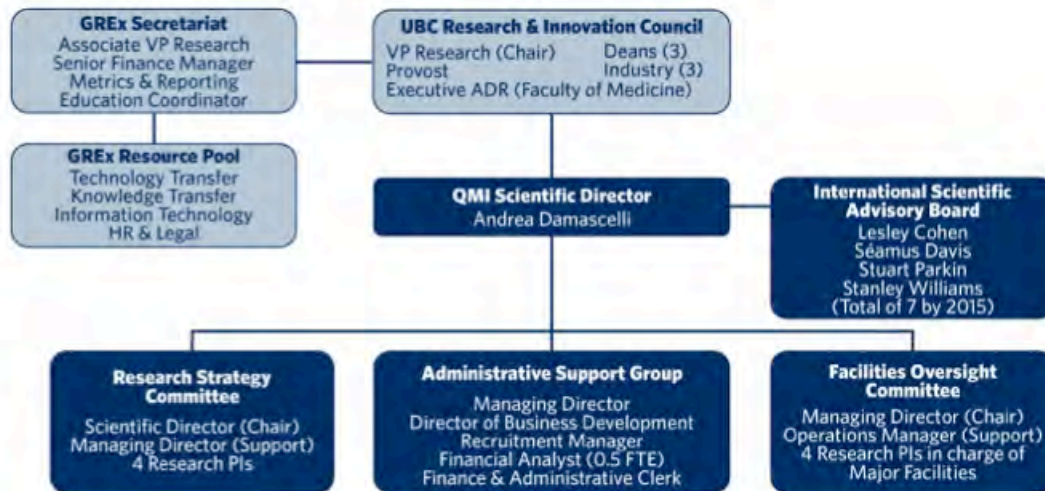
Recently, the QMI was awarded \$66.5 million from the Government of Canada, the largest government investment in a single UBC research program, and builds on past support from the Natural Sciences and Engineering Research Council, Canada Foundation for Innovation, Canada Excellence Research Chair, and Canada Research Chair programs, Western Economic Diversification, and the BC Knowledge Development Fund. UBC was one of only 5 recipients selected in a highly competitive process that together awarded almost \$350 million in funding. UBC commits to provide \$21 million plus \$22 million from partner institutions in new funding for research.

The QMI will authorize faculty exchanges with the Max Planck Society to allow junior faculty to split their time between Canada and Germany; promote undergraduate student exchanges; and to create a joint Max Planck Society-UBC PhD program. These initiatives will be brought to Senate for approval as necessary.

The University agrees to provide \$4.4 million of in-kind resources for implementation and operation of the GREx Institute management core to ensure QMI delivers on its goals of exceptional research and knowledge mobilization (See the attached diagram). In addition, \$5.6 million is committed to fund a Management Group, including a Managing Director, a Director of Business Development, an Operations Manager, a Human Resources Manager, a Financial Analyst, , a Finance and Administrative clerk, and research associates and engineering technicians needed to run technical service groups. The University agrees to hire 3 dedicated personnel in the VPRI office responsible for Finance, Metrics, Communication, Reporting, and Education for the QMI.

The Scientific Director of the QMI, the Dean of the Faculty of Science, and the Vice-President Research and International agree that the QMI meets the criteria to become a GREx Institute. Therefore I propose to designate the QMI as the first GREx Institute at UBC.

GREx QMI Organizational Chart





6 May 2016

To: Vancouver Senate

From: Admissions Committee

Re: a) Faculty of Graduate and Postdoctoral Studies – Graduate Appeals on Admission or Readmission Decisions (approval)
b) International Dental Degree Completion Program – Suspension of Admission (approval)
c) UBC –Langara Aboriginal Transfer Partnership (ATP): Bachelor of Commerce (approval)
d) Faculty of Graduate and Postdoctoral Studies – English Language Proficiency Requirements (approval)
e) Degree Partnership – UBC Faculty of Law and University of Hawaii (approval)
f) Degree Partnership – UBC Faculty of Law and University of Hong Kong Faculty of Law (approval)

a) Faculty of Graduate and Postdoctoral Studies – Graduate Appeals on Admission or Readmission Decisions (approval) (circulated)

The Admissions Committee has reviewed and recommends to Senate for approval the proposed Calendar entry on admission and readmission appeals for applicants to programs in the Faculty of Graduate and Postdoctoral Studies. The proposed processes align with appeal process for appeals for admission or readmission to undergraduate programs. There is currently no formal appeal process for graduate-level admission appeals. The circulated proposal will clarify for applicants what processes will be followed for admission appeals. Graduate programs not administered by the Faculty of Graduate and Postdoctoral Studies are currently being consulted on whether they wish to adopt the proposed process. If so, the appropriate proposals will be brought forward for Senate approval.

Motion: That Senate approve the proposed Calendar entry on Graduate Appeals on Admission or Readmission Decisions, effective for the 2016 Summer Session and thereafter.

b) International Dental Degree Completion Program – Suspension of Admission (approval)(circulated)

The Committee has reviewed and recommends to Senate for approval suspension of admission to the International Dental Degree Completion Program. The Faculty of Dentistry is currently undergoing curriculum renewal which results in movement of clinical and didactic curriculum earlier in the program. Applicants previously joined the program in Year 2.



Curriculum previously covered in Year 2 and thereafter is now covered earlier in the program. The Faculty will evaluate the impact of revised curriculum on the program prior to reopening admission to the program.

Motion: *That Senate approve suspension of admission to the International Dental Degree Completion Program, effective for entry to the 2017 Winter Session and thereafter.*

- c) UBC-Langara Aboriginal Transfer Partnership (ATP): Bachelor of Commerce (approval)(circulated)

The Committee has reviewed and recommends to Senate for approval the admission requirements for applicants to the Bachelor of Commerce program via the UBC-Langara Aboriginal Transfer Partnership. Effective for admission to the 2016 Winter Session and thereafter, Aboriginal students who meet the requirements set out in the attached proposal will be eligible for admission to the Bachelor of Commerce program as transfer applicants.

Motion: *That Senate approve admission requirements for applicants to the Bachelor of Commerce program via the UBC-Langara Aboriginal Transfer Partnership, effective for entry to the 2016 Winter Session and thereafter.*

- d) Faculty of Graduate and Postdoctoral Studies – English Language Proficiency Requirements (approval)

The Committee has reviewed and recommends to Senate for approval revised English language proficiency requirements for applicants to graduate program in the Faculty of Graduate and Postdoctoral Studies. The proposal is to expand the range of acceptable English language proficiency tests and to align the minimum requirements for consistency with University-wide requirements. The Calendar table outlining English language proficiency standards for graduate programs has also been updated.

Motion: *That Senate approve English language proficiency requirements for applicants to programs in the Faculty of Graduate and Postdoctoral Studies, effective for entry to the 2016 Winter Session Term 2 and thereafter.*

- e) Degree Partnership – UBC Faculty of Law and University of Hawaii William S. Richardson School of Law (approval)

The Committee has reviewed and recommends for approval changes in admission requirements for applicants to the degree partnership between the UBC Faculty of Law and University of Hawaii School of Law. The proposal enables eligible students enrolled in the UBC Juris Doctor (J.D.) program to complete the final year of the program at University of Hawaii through two years of full-time study. Similarly, students enrolled in the J.D. program at University of Hawaii School of Law may complete the final year of the program through two years of full-time study at UBC. Through the partnership, eligible students may complete J.D. degrees at both institutions in four years of full-time study.



Proposals for dual degree partnerships are routinely considered by the Council of Senates under Council Policy C-2: *Affiliations with Other Institutions of Learning* (available at: https://senate.ubc.ca/sites/senate.ubc.ca/files/downloads/co_policies_affiliations_other_institutions.pdf). This proposal requires Senate approval prior to Council consideration as it seeks to modify admission requirements for the UBC J.D. program.

The proposal is to modify the admissions requirements for applicants to the degree partnership to enable applicants from the University of Hawaii to be admitted to UBC (1) without having completed a foreign law degree program or (2) without seeking to transfer from another Canadian common law school, the only two admission categories to the UBC J.D. program other than first-year admission.

Once changes in admission requirements for applicants to this degree partnership are approved by Senate, the proposal will be forwarded for approval by the *Council of Senate* and the Board of Governors.

Motion: that Senate approve changes to admission requirements for the *Juris Doctor* program for applicants to the UBC Faculty of Law and University of Hawaii William S. Richardson School of Law Degree Partnership Program, effective for entry to the 2016 Winter Session and thereafter.

f) Degree Partnership – UBC Faculty of Law and Hong Kong University Faculty of Law (approval)

The Committee has reviewed and recommends to Senate for approval changes in admission requirements for applicants to the degree partnership between the UBC Faculty of Law and Hong Kong University (HKU) School of Law. The proposal enables eligible students enrolled in law degree programs at either institution to pursue the professional qualifications required to practice law in both Hong Kong and Canada.

UBC students in the Juris Doctor (JD) program will complete the first two years of their program at UBC and, if admitted by HKU to its Bachelor of Laws (LL.B.) program, will enroll in the LL.B. program at HKU for one year, after successful completion of which UBC will award them a J.D. degree. UBC J.D. students enrolled in the LL.B. program at HKU may apply to HKU's Post Graduate Certificate of Law (PCLL) program in their third year of study, for completion in the following year. (Completion of the PCLL program is a condition for pursuit of professional qualifications in Hong Kong.)

HKU LL.B. students will complete the first three years of their LL.B. degree program at HKU and, if admitted to the UBC J.D. program, will enroll in the J.D. program at UBC for two years, after the successful completion of which they will be awarded a J.D. degree from UBC.

The proposal is to modify the admissions requirements for applicants to the degree partnership to enable applicants from Hong Kong University to be admitted to UBC (1) without having



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THE UNIVERSITY OF BRITISH COLUMBIA

completed a foreign law degree program or (2) without seeking to transfer from another Canadian common law school, the only two admission categories to the UBC J.D. program other than first-year admission.

Once changes in admission requirements for applicants to this degree partnership are approved by Senate, the proposal will be forwarded for approval by the *Council of Senate* and the Board of Governors.

Motion: *that Senate approve changes to admission requirements for the Juris Doctor program for applicants to the UBC Faculty of Law and Hong Kong University Faculty of Law Degree Partnership Program, effective for entry to the 2016 Winter Session and thereafter.*

Respectfully submitted,

Dr. Robert Sparks
Chair, Senate Admissions Committee



UBC Calendar Change Proposal Form

<p>Faculty: Graduate and Postdoctoral Studies</p> <p>Department: N/A</p> <p>Faculty Approval Date: 11 February 2016</p> <p>Effective Session (W or S): 2016S</p> <p>Effective Academic Year: 2016S</p>	<p>Date: 11 February 2016</p> <p>Contact Person: Larry Walker (Associate Dean)</p> <p>Phone: 7-5546</p> <p>Email: lawrence.walker@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>URL: New section at the end of this page: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,340,0</p> <p>Proposed Calendar Entry:</p> <p>Graduate Appeals on Admission or Readmission Decisions</p> <p>Note that many fully-qualified applicants cannot be offered admission for various reasons such as limited capacity, rigorous competition, unavailability of supervision, lack of funding, etc.</p> <p>Applicants who believe that they have been unjustly denied admission or readmission to a program due to an error in process or who believe that they deserve special consideration due to mitigating circumstances should discuss the matter with the graduate program to which they applied immediately upon receipt of their final admission or readmission decision. If a satisfactory resolution cannot be achieved, the applicant may submit a written appeal to the Faculty of Graduate and Postdoctoral Studies for review by the Dean of the Faculty or designate. This written appeal must be received by the Faculty of Graduate and Postdoctoral Studies no</p>	<p>Present Calendar Entry:</p> <p>None.</p> <p>[Undergrad procedure follows for comparison:]</p> <p>Applications are screened carefully by Enrolment Services in accordance with Senate and faculty admission policies. Applicants who believe that they have been unjustly denied admission or readmission to a program due to an error in process or who believe that they deserve special consideration due to mitigating circumstances should discuss the matter with their Admissions Evaluator immediately upon receipt of their final admission or readmission decision. If a satisfactory resolution cannot be achieved, the applicant may submit a written appeal to Enrolment Services for review by the applicant's faculty or school responsible for the program to which the appellant has been refused. In some instances, as detailed below, appeal cases will be reviewed by the Senate Admissions Committee. Appeals on admission or readmission decisions will be considered on applications for the current year only and must be submitted within 14 calendar days of the date of issue on the notification of an admission or readmission decision.</p> <p>The appeal form along with (a) a letter of appeal outlining the reasons for the appeal and the circumstances relating to the appeal, and (b) any relevant supporting documents (see appeal form for details) should be submitted in one complete package to appeal.admissions@ubc.ca by the deadline.</p> <p>All appeals on admission or readmission decisions are sent by Enrolment Services to the faculty or school responsible for the program to which the</p>



later than six weeks before the first day of the term for which the applicant applied.

If the appeal is denied by the Dean of the Faculty of Graduate and Postdoctoral Studies, the applicant may submit a written appeal to the Senate Admissions Committee.

Appeals on admission or readmission decisions will be considered on applications for the current year only.

The appeal will be sent to the Senate Admissions Committee for review, and the Dean of the Faculty of Graduate and Postdoctoral Studies will send a written explanation of his/her reasons for denying the appeal.

The decision of the Committee will be communicated in writing to the appellant and to the Dean of the Faculty of Graduate and Postdoctoral Studies. The Committee's decision is final.

Appeals on Revoked Admission Offers

Graduate offers of admission may contain conditions that applicants are required to fulfill before they are able to register for their programs. Offers may be revoked if these conditions are not met by the applicant.

Applicants who believe that their conditional offer of admission has been unjustly revoked due to an error in the process or who believe that they deserve special consideration due to mitigating circumstances may submit a written appeal to the Faculty of Graduate and Postdoctoral Studies for review by the

appellant has been refused.

Based on whether or not the applicant has satisfied all relevant University-level admission standards as described in the policies and official regulations of the Academic Calendar, two routes are possible:

1. If the applicant satisfies the admission standards, yet the faculty or school denies the appeal, then Enrolment Services will ask if the applicant (appellant) wishes to have their appeal package forwarded to the Senate Admissions Committee for review. The applicant has five calendar days to respond. The Committee may allow an appeal where it decides that a faculty or school may have overlooked or misinterpreted information provided by the appellant, arrived at a decision without reasonable consideration of mitigating circumstances, or acted contrary to the faculty's published procedures. The decision of the Committee will be communicated in writing to the appellant and to the dean of the faculty or school. The Committee's decision is final.
2. If the applicant does not satisfy the admission standards, then the faculty or school's decision and comments, in addition to the appeal package, are automatically forwarded by Enrolment Services to the Senate Admissions Committee for review. The decision of the Committee will be communicated in writing to the appellant and to the dean of the faculty or school. The Committee's decision is final.

Appeals on Revoked Admission Offers

Confirmation of the conditions of admission offers are reviewed carefully by Enrolment Services in accordance with Senate and faculty admission policies. Applicants who believe that their conditional offer of admission has been unjustly revoked due to an error in the process or who believe that they deserve special consideration due to mitigating circumstances can appeal this decision. **Appeals on revocations must be submitted within 14 calendar days of the**



Dean of the Faculty or designate. **Appeals on revocations must be received by the Faculty of Graduate and Postdoctoral Studies within 14 calendar days of the revocation decision email notifying that the offer of admission has been revoked.**

If the appeal is denied by the Dean of the Faculty of Graduate and Postdoctoral Studies, the applicant may submit a written appeal to the Senate Admissions Committee.

Appeals to the Senate Admissions Committee on admission or readmission decisions will be considered on applications for the current year only.

The appeal will be sent to the Senate Admissions Committee for review, and the Dean of the Faculty of Graduate and Postdoctoral Studies will send a written explanation of his/her reasons for denying the appeal.

The Committee may allow an appeal where it decides that the Faculty of Graduate and Postdoctoral Studies may have overlooked or misinterpreted information provided by the applicant, arrived at a decision without reasonable consideration of mitigating circumstances, or acted contrary to the Faculty's published procedures.

The decision of the Committee will be communicated in writing to the appellant and to the Dean of the Faculty of Graduate and Postdoctoral Studies. The Committee's decision is final.

revocation decision email notifying that the offer of admission has been revoked.

The appeal form along with (a) a letter of appeal outlining the reasons for the appeal and the circumstances relating to the appeal, and (b) any relevant supporting documents (see appeal form for details) should be submitted in one complete package to appeal.admissions@ubc.ca by the deadline.

All appeals on revoked admission offers are sent by Enrolment Services to the faculty or school for review. If the faculty or school decides to reinstate the offer of admission and the applicant has satisfied all relevant University-level admission standards as described in the policies and official regulations of the Academic Calendar, Enrolment Services ensures that the offer is reinstated.

If the faculty or school decides to support the reinstatement of the offer, but the applicant does not satisfy the relevant University-level admission standards, then Enrolment Services forwards the complete appeal package, with the faculty or school's decision and comments, to the Senate Admissions Committee for review.

If the faculty upholds the revocation, then the complete appeal package, with the faculty or school's decision and comments, are forwarded by Enrolment Services to the Senate Admissions Committee for review.

The Committee may allow an appeal where it decides that a faculty or school may have overlooked or misinterpreted information provided by the applicant, arrived at a decision without reasonable consideration of mitigating circumstances, or acted contrary to the faculty's published procedures.

The decision of the Committee will be communicated in writing to the applicant (appellant) and to the dean of the faculty or school. The Committee's decision is final.

Type of Action:

Amend entry to state that this information



	<p>applies to undergraduate students, and to direct readers to the information for graduate students, which will be placed in the Faculty of Graduate and Postdoctoral Studies' section of the Calendar.</p> <p>Rationale for Proposed Change: The information and procedures for graduate students are not exactly the same as those for undergraduate students. There will be greater clarify for graduate students if there is a section specifically for them that will appear in the Faculty of Graduate and Postdoctoral Studies' section of the Calendar.</p>
<p>Proposed Calendar Entry: URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,16,0,0</p> <p>Appeals Appeals on Undergraduate Admission or Readmission Decisions</p> <p>For graduate appeal procedures, please see the <u>Faculty of Graduate and Postdoctoral Studies section on admission</u></p>	<p>Present Calendar Entry: URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=2,16,0,0</p> <p>Appeals Appeals on Admission or Readmission Decisions</p>



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UBC Admissions Proposal Form

Faculty/School: Dentistry Dept./Unit: Dean's Office Faculty/School Approval Date: March 24, 2016 Effective Session: for 2016 Calendar release for applicants to the 2017 program	Date: April 14, 2016 Contact Person: Vicki Koulouris Phone: 2-4486 Email: vkoulouris@dentistry.ubc.ca
URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,201,314,151 <u>Homepage → Faculties, Colleges, and Schools → The Faculty of Dentistry → Doctor of Dental Medicine --> Admission</u> Proposed Calendar Entry: International Dental Degree Completion Program (IDDCP) NOTE: The Faculty of Dentistry is not accepting applications to the International Dental Degree Completion Program (IDDCP) at this time until further notice. Internationally-trained dentists holding Canadian Citizenship or valid permanent residency permits in Canada are eligible to apply to the 4-year DMD program provided all admissions requirements are met. The Faculty will consider applications to the D.M.D. degree completion program from graduates of international dental programs which are not accredited by the Commission on Dental Accreditation of Canada. This program will commence in Term 3 of second year (lasts four weeks and occurs in June each year) and will lead to the degree of Doctor of Dental Medicine.	URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,201,314,151 Present Calendar Entry: The Faculty will consider applications to the D.M.D. degree completion program from graduates of international dental programs which are not accredited by the Commission on Dental Accreditation of Canada. This program will commence in Term 3 of second year (lasts four weeks and occurs in June each year) and will lead to the degree of Doctor of Dental Medicine.

<p>In addition to tuition fees, the costs of the program include clinic fees, course material costs, and student fees. Further information and online application forms are available from Dentistry.</p> <p>The Faculty of Dentistry receives applications from many more students than it can accept; therefore, compliance with the admission requirements does not guarantee admission.</p> <p>The admission process will be in two phases.</p> <p>Phase 1: Academic Credentials Evaluation</p> <p>...</p> <p>Phase 2: Assessment and Interview</p> <p>...</p> <p>Deposit</p> <p>...</p> <p>Registration and Orientation</p> <p>...</p>	<p>In addition to tuition fees, the costs of the program include clinic fees, course material costs, and student fees. Further information and online application forms are available from Dentistry.</p> <p>The Faculty of Dentistry receives applications from many more students than it can accept; therefore, compliance with the admission requirements does not guarantee admission.</p> <p>The admission process will be in two phases.</p> <p>Phase 1: Academic Credentials Evaluation</p> <p>...</p> <p>Phase 2: Assessment and Interview</p> <p>...</p> <p>Deposit</p> <p>...</p> <p>Registration and Orientation</p> <p>....</p> <p>Type of Action: To place a moratorium on the International Dental Degree Completion Program (IDDCP) commencing in 2016 until further notice.</p> <p>Rationale: UBC Dentistry is undergoing curriculum renewal, which results in movement of clinical and didactic curriculum earlier in the students' experience. IDDCP students have previously joined Year 2 of the program in May; however, curriculum at that time and thereafter is now moved earlier in the program. We must assess options to minimize the impact this will have on incoming IDDCP students,</p>
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	<p>including if they can join the program any earlier given their training and skills coming out of international dental programs. Additionally, many internationally-trained dentists are now successful in challenging the National Dental Examining Board of Canada. Thus, we must evaluate the impact of this on the IDDC Program at UBC Dentistry.</p>
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UBC Admission Proposal Form

Change to Course or Program

Faculty: Commerce Faculty Approval Date: 29Mar2016 Effective Session (W or S): W Effective Academic Year: 2016	Date: 3 September 2015 Contact Person: Kin Lo Phone: 2-8430 Email: kin.lo@sauder.ubc.ca
<p>Homepage→Faculties, Colleges, and Schools→ The Faculty of Commerce and Business Administration→Bachelor of Commerce→Admission for Students Entering the Program in 2016/17 or Later</p> <p>BC College Commerce Transfer Programs </p> <p>UBC-Langara Aboriginal Transfer Partnership (ATP)</p> <p>To be eligible to transfer to UBC through this partnership, Aboriginal students must meet the following requirements:</p> <ul style="list-style-type: none"> • Successfully complete the prerequisite requirements for Year 2 or Year 3 entry • Attain an overall final grade point average (GPA) of 2.67 (B-) or higher calculated on the most recent 30 credits, including failed and retaken courses. If in a particular year the competitive admission criterion for overall GPA is lower than 2.67, then the lower criterion applies. • Attain a core GPA of 2.67 (B-) or higher — for Year 2 entry, this is calculated on all transferable Economics, English, and the required Math (Differential Calculus) courses. All attempts at core courses are used in the calculation of your core average — for Year 3 entry, this is calculated on all transferable Commerce equivalent courses, including failed and retaken courses. • Submit a BCom Personal Profile. • Successfully complete the ATP Transition Plan offered by Langara in collaboration with UBC. <p>Business Programs at Other Universities </p>	<p>Present Calendar Entry:</p> <p>none</p> <p>Type of Action: Update admission entry to include Aboriginal Transfer Program</p> <p>Rationale: This calendar change will allow prospective students to find the UBC-Langara ATP program-specific eligibility requirements in the same section as general Bachelor of Commerce admission requirements.</p>



UBC Calendar Change Proposal Form

<p>Faculty: Graduate and Postdoctoral Studies Department: N/A Faculty Approval Date: 8 April 2016 Effective Session (W or S): W (Term 2) Effective Academic Year: 2016 (i.e., for January 2017 admissions)</p>	<p>Date: 5 May 2016 Contact Person: Larry Walker (Associate Dean) Phone: 604-827-5546 Email: lawrence.walker@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p><i>Doctoral Degrees</i></p> <p>...</p> <p>English Language Proficiency Requirement</p> <p>Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language prior to being extended an unconditional offer of admission. English language proficiency tests taken more than two years prior to application will not be considered. Unless otherwise stated, the score is the minimum on each part of the examination. Minimum scores must be achieved in a single sitting of the test (i.e., scores across multiple instances of a test may not be used to satisfy minimum component requirements). Minimum acceptable English language proficiency scores for applicants to Graduate Studies are:</p> <ul style="list-style-type: none"> • CAE (Certificate in Advanced English): B • CAEL (Canadian Academic English Language Assessment): overall 70, with 60 on the speaking sub-test • CEL (UBC Certificate in English Language): 600 	<p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,340,181</p> <p>Present Calendar Entry:</p> <p><i>Doctoral Degrees</i></p> <p>...</p> <p>English Language Proficiency Requirement</p> <p>Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language prior to being extended an unconditional offer of admission. Minimum acceptable English language proficiency scores for applicants to Graduate Studies are:</p> <ul style="list-style-type: none"> • TOEFL (Test of English as a Foreign Language): minimum overall score of 550 (paper version); 80 (Internet version) • 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 • CELP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L



- CELPIP (Canadian English Language Proficiency Index Program)
 - CELPIT-A (Academic Reading and Writing): 4L
 - CELL (Listening): 4L
 - CELTOP (Speaking): 4L
- CPE (Certificate of Proficiency in English): C
- IELTS (International English Language Testing System – Academic): 6.5 with no part less than 6.0
- MELAB (Michigan English Language Assessment Battery): 85 final score, with 3 in the speaking test
- PTE (Pearson Test of English – Academic): 65 overall score, with 60 reading, 60 writing, 60 listening, and 60 speaking
- TOEFL (Test of English as a Foreign Language)
 - either the paper-based test: 55 each for reading, listening, and writing, with 4.0 on the Test of Written English (TWE)
 - or the internet-based test: 90 overall score, with 22 reading, 21 writing, 22 listening, and 21 speaking

Individual graduate programs may require higher English language proficiency scores, and may require minimum scores on individual components of the test higher than those listed above. See [English Language Proficiency Standards and GRE Requirements](#).

- ~~CAEL (Canadian Academic English Language Assessment): minimum overall score of 60~~

Individual graduate programs may require higher English language proficiency scores than those listed above. See [English Language Proficiency Standards and GRE Requirements](#).

Proposed Calendar Entry:

Master's Degrees

...

URL:

<http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,204,340,182>

Present Calendar Entry:

Master's Degrees

...



English Language Proficiency Requirement

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language prior to being extended an unconditional offer of admission. **English language proficiency tests taken more than two years prior to application will not be considered. Unless otherwise stated, the score is the minimum on each part of the examination. Minimum scores must be achieved in a single sitting of the test (i.e., scores across multiple instances of a test may not be used to satisfy minimum component requirements).** Minimum acceptable English language proficiency scores for applicants to Graduate Studies are:

- **CAE (Certificate in Advanced English): B**
- **CAEL (Canadian Academic English Language Assessment): overall 70, with 60 on the speaking sub-test**
- **CEL (UBC Certificate in English Language): 600**
- **CELP (Canadian English Language Proficiency Index Program)**
 - **CELPIT-A (Academic Reading and Writing): 4L**
 - **CELL (Listening): 4L**
 - **CELTOP (Speaking): 4L**
- **CPE (Certificate of Proficiency in English): C**
- **IELTS (International English Language Testing System – Academic): 6.5 with no part less than 6.0**
- **MELAB (Michigan English Language Assessment Battery): 85 final score, with 3 in the speaking test**
- **PTE (Pearson Test of English – Academic): 65 overall score, with 60 reading, 60 writing, 60 listening, and 60 speaking**

English Language Proficiency Requirement

Applicants from a university outside Canada in which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language prior to being extended an unconditional offer of admission. Acceptable English language proficiency tests for applicants to graduate studies 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~~
- ~~CELP (Canadian English Language Proficiency Index Program): minimum scores; 4L/4L/4L~~
- ~~CAEL (Canadian Academic English Language Assessment): minimum overall score of 60~~

Individual graduate programs may require higher English language proficiency scores than those listed above. See [English Language Proficiency Standards and GRE Requirements](#).



- TOEFL (Test of English as a Foreign Language)
 - *either* the paper-based test: 55 each for reading, listening, and writing, with 4.0 on the Test of Written English (TWE)
 - *or* the internet-based test: 90 overall score, with 22 reading, 21 writing, 22 listening, and 21 speaking

Individual graduate programs may require higher English language proficiency scores, and may require minimum scores on individual components of the test higher than those listed above. See [English Language Proficiency Standards and GRE Requirements](#).

Type of Action:

Amend entry to expand the range of acceptable English language proficiency tests and to align the minimum requirements with those specified for UBC undergraduate admissions.

Rationale for Proposed Changes:

The current requirements for English language proficiency for admissions to graduate studies are lower than those of comparator universities and lower than for admissions to UBC undergraduate programs, likely resulting in more applications from less qualified students and greater challenges in academic progress for students who are admitted. The proposed changes align the English language proficiency requirements for graduate admissions with those for undergraduate admissions. There was no opposition to, and considerable support for, this proposal from graduate programs, many of which have higher requirements still. Note that the [Conditional Admission Program](#) remains in place.

Faculty: Graduate and Postdoctoral Studies Faculty Approval Date: Effective Session: 2016W Year for Change: 2016	Date: 2 May 2016 Contact Person: Dr. Lawrence Walker Phone: 7-5546 Email: lawrence.walker@ubc.ca
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English Language Proficiency Standards and GRE Requirements

Note: ~~TOEFL results will be valid for two years after the date the test is taken.~~

Minimum acceptable English language proficiency scores for applicants to programs in the Faculty of Graduate and Postdoctoral Studies are:

- **CAE (Certificate in Advanced English): B**
- **CAEL (Canadian Academic English Language Assessment): overall 70, with 60 on the speaking sub-test**
- **CEL (UBC Certificate in English Language): 600**
- **CELP (Canadian English Language Proficiency Index Program)**
 - **CELPIT-A (Academic Reading and Writing): 4L**
 - **CELL (Listening): 4L**
 - **CELTOP (Speaking): 4L**
- **CPE (Certificate of Proficiency in English): C**
- **IELTS (International English Language Testing System – Academic): 6.5 with no part less than 6.0**
- **MELAB (Michigan English Language Assessment Battery): 85 final score, with 3 in the speaking test**
- **PTE (Pearson Test of English – Academic): 65 overall score, with 60 reading, 60 writing, 60 listening, and 60 speaking**
- **TOEFL (Test of English as a Foreign Language)**
 - **either the paper-based test: 55 each for reading, listening, and writing, with 4.0 on the Test of Written English (TWE)**
 - **or the internet-based test: 90 overall score, with 22 reading, 21 writing, 22 listening, and 21 speaking**

English language proficiency tests taken more than two year prior to application will not be considered. Unless otherwise stated, the score is the minimum on each part of the examination. Minimum scores must be achieved in a single sitting of the test (i.e., scores across multiple instances of a test may not be used to satisfy minimum component requirements).

The minimum total score on the Internet-based TOEFL for all applicants to the Faculty of Graduate and Postdoctoral Studies is 80. The minimum total score for the paper-based test is 550. **Acceptable alternatives to the TOEFL include CAEL, CELPIP, IELTS, MELAB and PTE.**

Individual graduate programs **may** require higher **English language proficiency** scores, and may require minimum scores on individual components of the test. **Translations between the TOEFL scores shown below and results from other tests will be made by the graduate programs concerned, taking guidance from the tables provided by the respective testing agencies: [CAEL](#), [CELP](#), [IELTS](#), [MELAB](#) and [PTE](#).**

Note: The table below receives regular updates throughout the year and outlines the minimum component score.

TOEFL and GRE Requirements

Program	Reading/Writing/Listening/Speaking - Component Scores for Internet-based TOEFL	Internet-based TOEFL Overall	TOEFL (Paper)	GRE
Accounting		100		
Adult Learning and		100		

Education				
Adult Learning and Global Change	100			
Agricultural Economics	90			
Ancient Culture, Religion, and Ethnicity	100	600		
Anthropology 25/25/22/22	100	600		
Applied Animal Biology	90	577		
Architecture (M.A.S.A.)	100	600		Yes ¹
Architecture (M.Arch.)	100	600		Yes ¹
Archival Studies (M.A.S. and M.A.S./M.L.I.S.)	100	600		
Art Education 22/22/22/22	92	580		
Art History	100	600		
Art History (Critical Curatorial Studies)	100			
Asia Pacific Policy Studies	400	600		Yes⁺
Asian Studies	89	570		
Astronomy	80	550		
Atmospheric Science 22/21/22/24	100	600		Yes ¹
Audiology and Speech Sciences	100	600		
Biochemistry and Molecular Biology	106	625		Yes
Bioinformatics	100	600		
Botany	80	550		
Cell and Developmental Biology	100	550		
Chemical and Biological Engineering	90	577		
Chemistry	92	580		Yes
Children's Literature	100	600		
Civil Engineering ⁶	100	600		
Classical and Near Eastern Archaeology	100			
Classics and Classical Archaeology	100	600		
Commerce and Business Admin.	100	600		Yes ²

(M.Sc.B., Ph.D.)				
Comparative Literature		407	625	
Composition (D.M.A.)		93		
Computer Science		100	600	
Counselling Psychology		82	553	Yes
Creative Writing		80	550	
Critical and Curatorial Studies		400	600	
Cross-Faculty Inquiry in Education		86	567	
Craniofacial Science		93	580	Yes
Curriculum and Leadership	22/22/22/22	92	580	
Curriculum Studies	22/22/22/22	92	580	
Economics		80	550	Yes
Educational Administration and Leadership		100	600	
Educational Leadership and Policy		100	600	
Educational Studies		100	600	
Educational Technology	20/20/-	80	550	
Electrical and Computer Engineering		100	600	
Endodontics		93		Yes¹
English		104	615	
Ethnomusicology		93		
European Studies		92	580	
Experimental Medicine	22/22/22/22	96	590	
Film Production (M.F.A.)		100	600	
Film Production and Creative Writing		100		
Film Studies (M.A. and Ph.D.)		100	600	
Finance		100		Yes
Food Science		90	577	
Forestry (M.Sc.,		100	600	

M.A.Sc., M.F., Ph.D.)			
Forestry (M.I.F., M.S.F.M.)		100	600
French Studies		80	550
Gender, Race, Sexuality and Social Justice		97	
Genetic Counselling		100	600
Genome Science and Technology		100	600
Geography		100	600
Geological Engineering	22/21/22/24	100	600
Geological Sciences	22/21/22/24	100	600
Geophysics	22/21/22/24	100	600
Germanic Studies		80	550
Higher Education		100	600
Hispanic Studies		80	550
History		89	570
History of Education		92	600
Home Economics Education	22/22/22/22	92	580
Human Nutrition		90	577
Integrated Studies in Land and Food Systems		90	577
Interdisciplinary Oncology	22/24/22/22	100	
Interdisciplinary Studies		80	550
Journalism		104	615
Kinesiology	23/23/23/21	90	577
Landscape Architecture		100	600
Language and Literacy Education	22/22/22/22	92	550
Law ⁴		100	600
Library and Information Studies		100	
Library, Archival and Information Studies		100	600
Linguistics		80	580
Materials Engineering		83	560
Management		100	Yes²

Yes³

Information Systems			
Management Science		100	Yes²
Marketing		100	Yes²
Mathematics		100	600
Mathematics	22/22/22/22	92	580
Education			
Measurement, Evaluation, and Research Methodology	21/20/21/20	82	553 Yes ³
Mechanical Engineering ⁵		93	580 Yes ¹
Media and Technology Studies	22/22/22/22	92	
Education			
Medical Genetics		100	600
Medicine M.D./Ph.D. (Dual Program)		80	550
Microbiology and Immunology		100	600 Yes ⁷
Mining Engineering		80	550
Modern Language Education			550
Music (M.A., Ph.D., D.M.A.)		93	580 Yes ⁹
Music (M.Mus.)		80	550
Music Education	22/22/22/22	92	
Musicology		93	
Music Theory		93	
Neuroscience		100	600 Yes ⁷
Nursing		100	600 Yes ¹
Nurse Practitioner		100	
Occupational and Environmental Hygiene		100	600 Yes
Occupational Therapy		100	600
Oceanography		100	600
Interdisciplinary Oncology	22/24/22/22	400	600
Orchestral Instrument (D.M.A.)		93	
Organizational Behaviour		100	Yes
Orthodontics		93	
Pathology and		90	577 Yes ⁷

Laboratory Medicine				
Pediatric Dentistry		93		
Periodontics		93		
Pharmaceutical Sciences	22/22/22/22	100	600	
Pharmacology and Therapeutics		100	600	
Philosophy		100	600	
Philosophy of Education		100	600	
Physical Education	22/22/22/22	92	580	
Physical Therapy		100	600	
Physics		80	550	
Piano (D.M.A.)		93		
Piano (M.Mus.)		100		
Planning		100	600	Yes ¹
Plant Science		90	577	
Policy	22/22/22/22	100		
Political Science ⁶	22/25/22/23	92	580	Yes ⁸
Population and Public Health		107	625	Yes ²
Prosthodontics		93		
Psychology		88	550	Yes
Rehabilitation Sciences (M.Sc., Ph.D.)		100	600	Yes ⁷
Rehabilitation Sciences (M.R.Sc.)		108	627	
Religious Studies		100	600	
Reproductive and Developmental Science		80	580	
Resource Management and Environmental Studies		100	600	
School Psychology	21/20/21/20	82	553	Yes
Science Education	22/22/22/22	92	580	
Social Studies Education	22/22/22/22	92	580	
Social Work		93	580	
Society, Culture, and Politics in Education		100	600	
Sociology	25/25/22/22	100	600	Yes ¹⁰

Software Systems		100	600	
Soil Science		90	577	
Special Education	21/20/21/20	82	553	Yes ³
Statistics		100	600	
Strategy and Business Economics		100		Yes²
Surgery		80	550	
Teacher Librarianship		80	550	
Teaching English as a Second Language	22/22/22/22	92	550	
Technology Studies Education	22/22/22/22	92	580	
Theatre (M.F.A.)		80	550	
Theatre (M.A. and Ph.D.)		100	600	
Theory		93		
Transportation and Logistics		100		Yes²
Urban Land Economics		100		Yes²
Visual Arts		100	600	
Vocational Rehabilitation Counselling	21/20/21/20	82	553	
Voice (D.M.A.)		93		
Women's and Gender Studies		97	590	
Zoology		89	570	
¹ Not mandatory, but strongly recommended.				
² Or GMAT.				
³ Ph.D. program only.				
⁴ TWE: 5.5				
⁵ TSE: 40; TWE: 4.0				
⁶ TSE: 55; TWE: 5.0				
⁷ Applicants from outside North America only.				
⁸ General and subject tests required.				
⁹ Ph.D. programs in Musicology, Music Theory, and Ethnomusicology; M.A. programs in Musicology and Music Theory.				
¹⁰ For applicants with a degree from a university outside of Canada; results must be from the past 24 months.				

UBC Admission Proposal Form Change to Course or Program

<p>Faculty: Peter A. Allard School of Law Department: n/a Faculty Approval Date: September 17, 2015 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: August 10, 2015 Contact Person: Dr. Jeremy Schmidt, Dean's Office, Allard School of Law Phone: 604.822.5649 Email: schmidt@allard.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>International Degree Partnership Programs</p> <ul style="list-style-type: none"> • UBC-Melbourne Law School J.D./LL.M. Degree Partnership • UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership • Joint Legal Education Agreement with the University of Hawai'i • Joint Legal Education Agreement with the University of Hong Kong <p>UBC-Melbourne Law School J.D./LL.M. Degree Partnership</p> <p>Eligible students enrolled in the J.D. program at UBC have the opportunity to complete the final term of their J.D. studies through the LL.M. degree program at the University of Melbourne Law School (MLS). Likewise, eligible students enrolled in the J.D. program at MLS may complete</p>	<p>URL:</p> <p>http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,207,358,1560</p> <p>Type of Action:</p> <p>New international degree partnership options (2)</p> <p>Present Calendar Entry:</p> <p>International Degree Partnership Programs</p> <ul style="list-style-type: none"> • UBC-Melbourne Law School J.D./LL.M. Degree Partnership • UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership <p>UBC-Melbourne Law School J.D./LL.M. Degree Partnership</p> <p>Eligible students enrolled in the J.D. program at UBC have the opportunity to complete the final term of their J.D. studies through the LL.M. degree program at the University of Melbourne Law School (MLS). Likewise, eligible students enrolled in the J.D. program at MLS may complete</p>

<p>their final semester of their J.D. students through one of the LL.M. programs at UBC. Students who successfully pursue this opportunity will receive (as appropriate):</p> <ul style="list-style-type: none"> • a J.D. from MLS and either an LL.M., LL.M. Common Law (LL.M. C.L.), or LL.M. in Taxation (LL.M. Tax.) from UBC; or • a J.D. from UBC and an LL.M. from MLS. <p>Eligibility and Admission</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Registration</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership</p> <p>Eligible students enrolled in the Bachelor of Laws (LL.B.) program at Tsinghua University may earn an LL.B. degree from Tsinghua University together with a Juris Doctor (J.D.) degree from UBC in five years of full-time study, plus the successful completion of a degree thesis at Tsinghua University.</p> <p>Students will complete three years of full-time study in the LL.B. program at Tsinghua University and complete two further years of full-time study in the J.D. program at UBC, comprised of two full winter sessions and one summer session, before returning to Tsinghua University to</p>	<p>their final semester of their J.D. students through one of the LL.M. programs at UBC. Students who successfully pursue this opportunity will receive (as appropriate):</p> <ul style="list-style-type: none"> • a J.D. from MLS and either an LL.M., LL.M. Common Law (LL.M. C.L.), or LL.M. in Taxation (LL.M. Tax.) from UBC; or • a J.D. from UBC and an LL.M. from MLS. <p>Eligibility and Admission</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Registration</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership</p> <p>Eligible students enrolled in the Bachelor of Laws (LL.B.) program at Tsinghua University may earn an LL.B. degree from Tsinghua University together with a Juris Doctor (J.D.) degree from UBC in five years of full-time study, plus the successful completion of a degree thesis at Tsinghua University.</p> <p>Students will complete three years of full-time study in the LL.B. program at Tsinghua University and complete two further years of full-time study in the J.D. program at UBC, comprised of two full winter sessions and one summer session, before returning to Tsinghua University to</p>
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<p>complete the degree thesis.</p> <p>Eligibility and Admission</p> <p>...</p> <p>Degree Requirements</p> <p>...</p> <p>Registration and Continuation</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>Joint Legal Education Agreement with the University of Hawai'i</p> <p>The Joint Legal Education Agreement between the University of Hawai'i (UH) and the University of British Columbia (UBC) allows eligible students to complete Juris Doctor (J.D.) degrees at both institutions in four years of full-time study.</p> <p>Students enrolled in the J.D. program at UBC have the opportunity to complete the final year of their J.D. studies through the J.D. program at UH, where they will complete two years of full-time study. Likewise, eligible students enrolled in the J.D. program at UH may complete the final year of their J.D. studies through the J.D. program at UBC, enrolling in two years of full-time study.</p> <p>Eligibility and Admission</p> <p>To be eligible, UBC J.D. students must successfully have completed the first year curriculum of the J.D. program at UBC and 30 additional UBC credits of upper level courses, including all required courses for the J.D. degree.</p>	<p>complete the degree thesis.</p> <p>Eligibility and Admission</p> <p>...</p> <p>Degree Requirements</p> <p>...</p> <p>Registration and Continuation</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>Rationale for Proposed Changes:</p> <p>UBC and the University of Hawai'i first signed a joint legal education agreement in 2009 and it is now due for renewal (as of July 31, 2015). The agreement was intended to further two strategic objectives of the Faculty of Law: (1) enhance the global character of UBC Law by strengthening international recruitment; and (2) improve student opportunities for international study.</p> <p>Both remain important objectives, and the University of Hawai'i law school is also an important international partner for the Allard School of Law, with complementary strengths and programs in environmental law and indigenous legal studies.</p> <p>The agreement involves an exception to the Faculty's current admissions policies, since law students from the University of Hawai'i can be admitted to the J.D. program at UBC (1) without having completed a foreign law degree program; or (2) without seeking to transfer from another Canadian common law school, the two admissions categories to the UBC J.D. degree program other than first-year</p>
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UH J.D. students must have successfully completed at UH at least four terms of full-time study with at least 60 credits, including the “First Year Curriculum,” Constitutional Law I, Professional Responsibility, Second Year Seminar and 2 credits of skills or clinic courses.

Interested UBC J.D. students eligible to participate must apply to the UH J.D. program by January 30 of their second year of study, for entry into the UH J.D. program in their third year of study.

Interested UH J.D. students eligible to participate must apply to the UBC J.D. program by January 30 of their second year of study, for entry into the UBC J.D. program in their third year of study.

Applicants to either law school must take the Law School Admission Test (LSAT) and have their scores reported, prior to January 30 of their second year of study, to the law school to which they are applying. An LSAT score that was used for original admission to either the UBC or the UH J.D. program will be accepted by UH or UBC for application through the Joint Legal Education Agreement to their respective J.D. programs.

Applicants will be selected according to their academic and personal qualifications through the standard application process at each institution. Each law school has sole discretion to determine admissibility into its academic program.

Academic Requirements

If successfully admitted to the UH J.D. program, UBC J.D. students will complete a further two years of full time study at UH, including all mandatory

admissions. The basis for this exception is the fact that UH students have two years of law school in a common law system with broad similarities to the Canadian (common law) legal system. In addition, UH students are required to complete at UBC all UBC J.D. degree requirements that fulfill the Federation of Law Societies of Canada’s accreditation standards with respect to areas requiring knowledge specifically of Canadian law.

For UBC law students, the completion of their UBC J.D. degree via an approved year at an international partner institution places them in a similar position to law students fulfilling their degree requirements through an international exchange and so poses no issues of concern. Students are required to fulfill all mandatory course and degree program requirements in order to obtain their UBC J.D. degree.

curriculum and degree requirements for the UH J.D. UBC will accept the equivalent of one (full-time) year of academic credit earned by UBC J.D. students completing their degree program at UH through the Joint Legal Education Agreement.

If successfully admitted to the UBC J.D. program, UH J.D. students will complete at UBC all required courses and credits for the UH J.D. program not already fulfilled at UH, as well as all courses and credits necessary for fulfillment of the UBC J.D. degree requirements. UH will accept the equivalent of one (full-time) year of academic credit earned by UH J.D. students completing their degree program at UBC through the Joint Legal Education Agreement.

Registration

Students will be governed by the applicable academic rules, codes of conduct, and the like which are in effect at the institution at which they are studying at any given time.

UBC J.D. students enrolled in the UH J.D. program under the Joint Legal Education Agreement will pay tuition and fees to UH. UH J.D. students enrolled in the UBC J.D. program under the Joint Legal Education Agreement will pay tuition and fees to UBC. Students will be liable for the tuition and fees determined by the law school in which they are enrolled in accordance with the residency and citizenship.

Graduation

Students must fulfill the graduation requirements of each degree-granting institution. The fulfillment of these

<p>requirements will be determined on a case-by-case basis for each student applying for degree conferral by the respective degree-granting institution; UBC and UH.</p>	
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**AMENDED AND RESTATED AGREEMENT ON LEGAL EDUCATION LEADING TO
QUALIFICATION TO PRACTICE IN CANADA AND THE UNITED STATES OF AMERICA**

BETWEEN

**THE UNIVERSITY OF BRITISH COLUMBIA
PETER A. ALLARD SCHOOL OF LAW ("UBC")**

AND

**THE UNIVERSITY OF HAWAI'I
WILLIAM S. RICHARDSON SCHOOL OF LAW ("UH")**

PART I: TERMS OF THE AGREEMENT

Statement of Purpose

This Amended and Restated Agreement of Legal Education Leading to Qualification to Practice in Canada and the United States of America (the "**Amended and Restated Agreement**") hereby amends and restates the original agreement entered into by UBC and UH dated August 1, 2010 (the "**Existing Agreement**"), subject to the terms and conditions set forth herein (the Amended and Restated Agreement and the Existing Agreement shall be herein collectively defined as the "**Agreement**"). The purpose of this Agreement is to provide a collaborative arrangement by which law students at either UBC or UH can become eligible to pursue qualification to practice law in Canada and the United States of America (the "**Program**"). For greater clarity, the term "Program" used herein is intended for ease of reference and not to obligate either UBC or UH to officially designate such law degree partnership program at their respective institutions as a "Program". Such official designation will be determined by individually and separately by UBC and UH and their respective governing bodies.

Terms and Conditions of Credit Transfer

The parties to this Agreement hereby agree to the terms and conditions set forth herein, subject to the approval of the Program and the Agreement by the appropriate academic governing bodies at each university. Upon such approval, the parties agree to accept the equivalent of one year of academic credit earned by law students at each other's university.

Requirements for Student Eligibility under this Agreement

This Agreement applies to:

UBC law students, who have successfully completed the JD First Year Curriculum and 30 UBC credits of upper level courses including all required courses for the JD degree. UBC law students

must also take the Law School Admission Test (“**LSAT**”) and have their scores reported, prior to January 30th of their second year of study, to the UH (Law School Code 4867).

UH law students, who have completed at UH at least four terms of full-time study with at least 60 credits, including the “First Year Curriculum,” Constitutional Law I, Professional Responsibility, Second Year Seminar and 2 credits of skills or clinic courses. UH law students must also take the LSAT and have their scores reported, prior to January 30th of their second year of study, to UBC (Law School Code 0965).

Each party will accept the LSAT score that was used for admission to the other party.

Selection Procedure for the Program

UBC students must apply to UH for admission to the UBC-UH Joint Legal Education Program by January 30th of their second year of study for entry to the third year program. UH students must apply to UBC for admission to the UBC-UH Joint Legal Education Program by January 30th of their second year of study. Each law school will have the sole discretion of determining admissibility into its academic program. Both parties guarantee that participants will be selected according to their academic and personal qualifications and the standard application process at each institution.

Program Limits

Up to five students are to be accepted under this Agreement by each university each year.

Terms and Conditions of Degree Conferral

Students must fulfill the graduation requirements of each degree-granting institution. The fulfillment of these requirements will be determined on a case-by-case basis for each student applying for degree conferral by the respective degree granting university; UBC and UH.

Curriculum

UBC students will fulfill at UH any UBC requirements not already fulfilled at UBC. UH students will fulfill at UBC any UH requirements not already fulfilled at UH.

UBC students who are members of legally underserved communities, have overcome adversity and demonstrated their academic potential, leadership ability, and commitment to social justice will be considered for UH’s the Ulu Lehua Scholars Program.

UH Native Hawaiian students are welcome to participate in the UBC’s Indigenous Legal Studies Program. (For clarity, UH Native Hawaiian students applying to UBC will not be considered through UBC law school’s Indigenous admissions process; the Indigenous Legal Studies Program is open to all Indigenous law students regardless of category of admission.)

Intellectual Property

The name, crests and logos of UBC are the intellectual property of UBC, and may not be used without UBC’s express written licensed permission for each specific usage.

PART II: FINANCIAL ARRANGEMENTS

UBC students will complete the third year of the UBC JD program and the final year of the UBC-UH Joint Legal Education Program paying tuition and fees to UH. UH students will complete the third year of the UH JD program and the final year of the UBC-UH Joint Legal Education Program paying tuition and fees to UBC. Students will be liable for the tuition and fees determined by the host law school in accordance with their residency and citizenship.

PART III: TERM AND TERMINATION

The Deans of the respective Schools of Law or designees shall be responsible for conducting a periodic review of this Agreement.

The term of this Agreement shall be for a three (3) year period beginning on August 1, 2015, and continuing through July 31, 2018, and can be renewed with written consent of both parties, Notwithstanding anything herein to the contrary, should any existing student at either institution be already admitted to the Program at the time this Agreement expires, such rights and obligations of the parties hereunder shall survive the termination or expiry only until the conclusion of the Program's then current offering, so that all students from either institution admitted the Program will be able to complete their legal educations as envisioned by this Agreement.

Notwithstanding the date of execution of this Amended and Restated Agreement, the effective date of this Amended and Restated Agreement shall be August 1, 2015 (the "**Effective Date**").

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed intending to be bound thereby.

THE UNIVERSITY OF BRITISH COLUMBIA
PETER A. ALLARD SCHOOL OF LAW

THE UNIVERSITY OF HAWAII
WILLIAM S. RICHARDSON
SCHOOL OF LAW

Authorized Signatory

Professor (insert)
President

Professor (insert)
Chancellor

Professor (insert)
Dean

Professor Catherine Dauvergne
Dean

Date

Date

UBC Admission Proposal Form Change to Course or Program

<p>Faculty: Peter A. Allard School of Law Department: n/a Faculty Approval Date: September 17, 2015 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: August 10, 2015 Contact Person: Dr. Jeremy Schmidt, Dean's Office, Allard School of Law Phone: 604.822.5649 Email: schmidt@allard.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>International Degree Partnership Programs</p> <ul style="list-style-type: none"> • UBC-Melbourne Law School J.D./LL.M. Degree Partnership • UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership • Joint Legal Education Agreement with the University of Hawai'i • Joint Legal Education Agreement with the University of Hong Kong <p>UBC-Melbourne Law School J.D./LL.M. Degree Partnership</p> <p>Eligible students enrolled in the J.D. program at UBC have the opportunity to complete the final term of their J.D. studies through the LL.M. degree program at the University of Melbourne Law School (MLS). Likewise, eligible students enrolled in the J.D. program at MLS may complete</p>	<p>URL:</p> <p>http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,207,358,1560</p> <p>Type of Action:</p> <p>New international degree partnership options (2)</p> <p>Present Calendar Entry:</p> <p>International Degree Partnership Programs</p> <ul style="list-style-type: none"> • UBC-Melbourne Law School J.D./LL.M. Degree Partnership • UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership <p>UBC-Melbourne Law School J.D./LL.M. Degree Partnership</p> <p>Eligible students enrolled in the J.D. program at UBC have the opportunity to complete the final term of their J.D. studies through the LL.M. degree program at the University of Melbourne Law School (MLS). Likewise, eligible students enrolled in the J.D. program at MLS may complete</p>

<p>their final semester of their J.D. students through one of the LL.M. programs at UBC. Students who successfully pursue this opportunity will receive (as appropriate):</p> <ul style="list-style-type: none"> • a J.D. from MLS and either an LL.M., LL.M. Common Law (LL.M. C.L.), or LL.M. in Taxation (LL.M. Tax.) from UBC; or • a J.D. from UBC and an LL.M. from MLS. <p>Eligibility and Admission</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Registration</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership</p> <p>Eligible students enrolled in the Bachelor of Laws (LL.B.) program at Tsinghua University may earn an LL.B. degree from Tsinghua University together with a Juris Doctor (J.D.) degree from UBC in five years of full-time study, plus the successful completion of a degree thesis at Tsinghua University.</p> <p>Students will complete three years of full-time study in the LL.B. program at Tsinghua University and complete two further years of full-time study in the J.D. program at UBC, comprised of two full winter sessions and one summer session, before returning to Tsinghua University to</p>	<p>their final semester of their J.D. students through one of the LL.M. programs at UBC. Students who successfully pursue this opportunity will receive (as appropriate):</p> <ul style="list-style-type: none"> • a J.D. from MLS and either an LL.M., LL.M. Common Law (LL.M. C.L.), or LL.M. in Taxation (LL.M. Tax.) from UBC; or • a J.D. from UBC and an LL.M. from MLS. <p>Eligibility and Admission</p> <p>...</p> <p>Academic Requirements</p> <p>...</p> <p>Registration</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>UBC-Tsinghua University School of Law LL.B./J.D. Degree Partnership</p> <p>Eligible students enrolled in the Bachelor of Laws (LL.B.) program at Tsinghua University may earn an LL.B. degree from Tsinghua University together with a Juris Doctor (J.D.) degree from UBC in five years of full-time study, plus the successful completion of a degree thesis at Tsinghua University.</p> <p>Students will complete three years of full-time study in the LL.B. program at Tsinghua University and complete two further years of full-time study in the J.D. program at UBC, comprised of two full winter sessions and one summer session, before returning to Tsinghua University to</p>
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<p>complete the degree thesis.</p> <p>Eligibility and Admission</p> <p>...</p> <p>Degree Requirements</p> <p>...</p> <p>Registration and Continuation</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>Joint Legal Education Agreement with the University of Hawai'i</p> <p>The Joint Legal Education Agreement between the University of Hawai'i (UH) and the University of British Columbia (UBC) allows eligible students to complete Juris Doctor (J.D.) degrees at both institutions in four years of full-time study.</p> <p>Students enrolled in the J.D. program at UBC have the opportunity to complete the final year of their J.D. studies through the J.D. program at UH, where they will complete two years of full-time study. Likewise, eligible students enrolled in the J.D. program at UH may complete the final year of their J.D. studies through the J.D. program at UBC, enrolling in two years of full-time study.</p> <p>Eligibility and Admission</p> <p>...</p> <p>Academic Requirements</p> <p>...</p>	<p>complete the degree thesis.</p> <p>Eligibility and Admission</p> <p>...</p> <p>Degree Requirements</p> <p>...</p> <p>Registration and Continuation</p> <p>...</p> <p>Graduation</p> <p>...</p>
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<p>Registration</p> <p>...</p> <p>Graduation</p> <p>...</p> <p>Joint Legal Education Agreement with the University of Hong Kong</p> <p>The Joint Legal Education Agreement between the University of British Columbia (UBC) and the University of Hong Kong (HKU) allows eligible students enrolled in law degree programs at either institution an option to pursue the professional qualifications required to practice law in both Hong Kong and Canada.</p> <p>UBC law students will complete the first two years of their J.D. degree program at UBC and, if admitted by HKU to the LL.B. program, will subsequently enroll in the LL.B. program at HKU for one year, after successful completion of which UBC will award them a J.D. degree. UBC J.D. students enrolled in the LL.B. program at HKU may apply to HKU's Post Graduate Certificate of Law (PCLL) program in their third year of study, which they would complete the following year, if admitted. (Completion of the PCLL program is a condition for pursuit of professional qualifications in Hong Kong.)</p> <p>HKU law students will complete the first three years of their LL.B. degree program at HKU and, if admitted by UBC to the J.D. program, will subsequently enroll in the J.D. program at UBC for two years, after the successful completion of which they will be awarded a J.D. degree from UBC.</p>	<p>Rationale for Proposed Changes:</p> <p><u>University of Hong Kong</u></p> <p>UBC and the University of Hong Kong (HKU) first signed a joint legal education agreement in 2009 and it is now due for renewal (as of July 31, 2015). The agreement was intended to further two strategic objectives of the Faculty of Law: (1) enhance the global character of UBC Law by strengthening international recruitment; and (2) improve student opportunities for international study.</p> <p>Both remain important objectives, and HKU law school is also an important international partner for the Allard School of Law, with complementary strengths and programs in environmental law and indigenous legal studies.</p> <p>The agreement involves an exception to the Faculty's current admissions policies, since law students from HKU can be admitted to the J.D. program at UBC (1) without having completed a foreign law degree program; or (2) without seeking to transfer from another Canadian common law school, the two admissions categories to the UBC J.D. degree program other than first-year admissions. The basis for this exception is the fact that HKU students have three years of law school in a common law system with broad similarities to the Canadian legal system. In addition,</p>
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<p>Eligibility and Admission</p> <p>To be eligible, UBC J.D. students must successfully have completed the first year curriculum in the UBC J.D. program and 30 UBC credits of upper level course, including all required courses for the UBC J.D. degree, with a cumulative grade average of at least 74%.</p> <p>Interested UBC J.D. students must apply to HKU by January 30 of their second year of study; and by April 30 of their third year of study for admission to the PCLL program.</p> <p>To be eligible, HKU LL.B. students must have successfully completed 180 HKU credits, including 132 credits of the compulsory core and 48 credits of university required courses, with a cumulative grade average of at least 3.1.</p> <p>Interested HKU LL.B. students must apply to UBC for admission to the J.D. program by January 30 of their third year of study.</p> <p>Applicants will be selected according to: (a) their academic and personal qualifications and (b) the standard application process at each institution. Each law school has sole discretion to determine admissibility into its academic program(s).</p> <p>Academic Requirements</p> <p>If successfully admitted to the HKU LL.B. program, UBC J.D. students will fulfill any pre-requisites for the PCLL course not already fulfilled at UBC.</p> <p>HKU LL.B. students will complete all</p>	<p>HKU students are required to complete at UBC all UBC J.D. degree requirements that fulfill the Federation of Law Societies of Canada's accreditation standards with respect to areas requiring knowledge specifically of Canadian law.</p> <p>The original agreement required HKU students applying to the UBC J.D. program under the agreement to submit an LSAT score as part of their application. To remove unnecessary barriers to applications from HKU law students, the UBC Faculty of Law's Admissions Committee agreed to waive this requirement, since (a) students are not required to sit the LSAT for admission to the HKU LL.B. program; and (b) the purpose of the LSAT is to predict academic performance in law school, which will be readily evident for HKU law students in their third year of study. The Faculty of Law proposes to continue this arrangement with the renewed agreement.</p> <p>For UBC law students applying to HKU under the agreement, the completion of their UBC J.D. degree via an approved year at an international partner institution places them in a similar position to law students fulfilling their degree requirements through an international exchange and so poses no issues of concern. Students are required to fulfill all mandatory course and degree program requirements in order to obtain their UBC J.D. degree.</p>
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PCLL pre-requisite courses not available at UBC prior to enrolling at UBC. If successfully admitted to the UBC J.D. program, HKU LL.B. students will complete at UBC all required courses and credits for the LL.B. program not already fulfilled at HKU, as well as all courses and credits necessary for fulfillment of the UBC J.D. degree requirements.

Registration

UBC J.D. students enrolled in either the HKU LL.B. program or the HKU PCLL program under the Joint Legal Education Agreement will pay tuition and fees to HKU. HKU students enrolled in the UBC J.D. program under the Joint Legal Education Agreement will pay tuition and fees to UBC.

Graduation

Students must fulfill the graduation requirements of each degree-granting institution. The fulfillment of these requirements will be determined on a case-by-case basis for each student applying for degree conferral by the respective degree-granting institution; UBC and HKU. UBC students must meet all requirements for the J.D. degree from UBC prior to commencing the PCLL program at HKU.



AMENDED AND RESTATED AGREEMENT ON LEGAL EDUCATION LEADING TO QUALIFICATION TO PRACTICE IN CANADA AND HONG KONG

BETWEEN

PETER A. ALLARD SCHOOL OF LAW AT THE UNIVERSITY OF BRITISH
COLUMBIA (“UBC”)

AND

THE UNIVERSITY OF HONG KONG
FACULTY OF LAW

(“HKU”)

PART 1: TERMS OF THE AGREEMENT

Statement of Purpose

This Amended and Restated Agreement on Legal Education Leading to Qualification to Practice in Canada and Hong Kong (“**the Amended and Restated Agreement**”) hereby amends and restates the original agreement entered into by UBC and HKU dated August 1, 2009 (the “**Existing Agreement**”), subject to the terms and conditions set forth herein (the Amended and Restated Agreement and the Existing Agreement shall be herein collectively defined as the “**Agreement**”). The purpose of this Agreement is to provide a collaborative arrangement by which law students at either HKU or UBC can become eligible to pursue qualification to practice law in Canada and Hong Kong (the “**Program**”). For greater clarity, the term “Program” used herein is intended for ease of reference and not to obligate either UBC or HKU to officially designate such law degree partnership program at their respective institutions as a “Program”. Such official designation will be determined by individually and separately by UBC and HKU and their respective governing bodies.

Terms and Conditions of Credit Transfer

The parties to this Agreement hereby agree to the terms and conditions set forth herein. The parties agree to accept academic credit earned by law students at each other’s faculty of law, under the terms of the Program.

Requirements for Student Participation under this Agreement

This Agreement applies to:

UBC law students, who have successfully completed the JD First Year Curriculum and 30 UBC credits of upper level courses including all required courses for completion the JD degree with a cumulative grade average of at least 74%.

HKU law students, who have successfully completed 180 HKU credits including 132 credits of the compulsory core and 48 credits of university required courses with a cumulative grade average of at least 3.1.

Selection Procedure for the Program

UBC students must apply to HKU for admission as visiting students by January 30th of their second year of study for entry to the pre-requisite portion of the Program and by April 30th of their third year of study for entry to the Post Graduate Certificate in Laws (“PCLL”) portion of the Program. HKU students must apply to UBC for admission to the JD program by January 30th of their third year of study. Each law faculty will have the sole discretion of determining admissibility into its academic program(s). Both parties agree that participants will be selected according to their academic and personal qualifications and the standard application processes at each institution.

Program Limits

Up to five students are to be accepted under this Agreement by each university each year.

Terms and Conditions of Degree Conferral

Students must fulfill the graduation requirements of each degree-granting institution. The fulfillment of these requirements will be determined on a case-by-case basis for each students applying for degree conferral by the respective degree granting university; UBC and HKU. UBC students must earn the JD degree from UBC prior to commencing the PCLL course.

Curriculum

UBC students will fulfill at HKU any pre-requisites for the PCLL course not already fulfilled at UBC. HKU will advise UBC students in advance of their enrollment at HKU, of the pre-requisite courses they need to fulfill at HKU. HKU will advise UBC of the PCLL pre-requisites courses that may be taken at UBC so UBC may advise students who are considering applying to the Program.

HKU students will complete all PCLL pre-requisite courses not available at UBC prior to enrolling at UBC. HKU will advise its students, in advance of their enrollment at UBC, of the PCLL pre-requisite courses they need to fulfill at HKU and UBC. In addition, HKU students will fulfill at UBC, all required course and credits for the JD program not already fulfilled at HKU.

UBC will advise HKU students, in advance of their enrollment at UBC, of the courses and credits they need to fulfill at UBC.

Intellectual Property

The name, crests and logos of UBC and HKU are the intellectual property of the respective institutions, and may not be used without the express written licensed permission by the respective institutions for each specific usage.

Limitation of Liability

Neither HKU nor UBC shall be responsible to the other institution for any punitive or special damages, indirect or consequential loss or damages or similar, such as, but not limited to, loss of profit, loss of revenue or loss of contracts.

Applicable Law

All research, teaching and other activities conducted under this Agreement must be conducted in accordance with the laws, rules, and regulations applicable to each institution. In the case of the University of British Columbia, these are the laws, rules, and regulations of The University of British Columbia, the province of British Columbia and Canada. In the case of The University of Hong Kong, this will be conducted in accordance with the laws, rules and regulations of Hong Kong SAR. Any perceived or actual discrepancies between the laws, rules, and regulations applicable to each institution and the obligations set forth hereunder shall be handled in accordance with the provision entitled “Dispute Resolutions” below.

Assignment

This Agreement may not be assigned by either Institution without prior written consent of the other institution.

Dispute Resolution

If any disputes arise out of this Agreement, both HKU and UBC agree to seek non-litigious means to resolve them in accordance with this Section (Dispute Resolution). The parties agree to use their commercially reasonable efforts to settle any disputes or claims arising from or relating to this Agreement or any conflict, whether perceived or actual, under the terms of this Agreement or the Program. If a dispute arises, one party shall notify the other of its intention to reach a solution and then the Dean of the Peter A. Allard School of Law at UBC and the Vice-President and Pro-Vice-Chancellor (Global) at HKU, or their designees, shall attempt to resolve any dispute or misunderstanding through collaboration and good faith. If after sixty (60) days from the dispute notification there is still no mutually agreeable solution, then each party may pursue alternative recourses, at its own discretion.

Confidential Information

Each party agrees that all information and/or data of a confidential nature or purpose in any medium or form (whether marked "confidential" or not) which one party receives ("**receiving party**") either directly or indirectly and which concerns, without limitation, personal data (i.e., information relating to an identified or identifiable individual(s)), as well as the business, operations or students of the other party ("**disclosing party**") , shall be treated by the receiving party, as confidential and shall neither be used nor disclosed to third parties without the prior written consent of the disclosing party, except for information which:

- (a) Falls into the public domain or is publicly available or becomes publicly available otherwise than through a breach of this MOU;
- (b) Is subsequently lawfully obtained by the receiving party from a third party, who is not under a known confidentiality restriction;
- (c) Was known to the receiving party prior to such disclosure or is independently developed; or
- (d) Is required to be disclosed by the receiving party by applicable law, regulation or court order in which event the receiving party shall promptly notify the disclosing party of the requirement for such disclosure.

Force Majeure

The Parties agree that, if by reason of strike or other labor disputes, civil disorders, severe weather, acts of God, government issued travel warnings or alerts, or other cause beyond the control of the party seeking to invoke this paragraph, either party is unable to perform entirely its obligations, such non-performance shall not be considered a breach of this agreement.

Renewal, Termination and Amendment

This Agreement shall take effect on the Effective Date and shall remain in effect through the conclusion of the 2018-19 academic year unless sooner terminated by either party giving notice to the other party in writing no later than the end of March in any year that the Agreement will be terminated prior to the commencement of the following academic year. The Agreement may be extended or otherwise amended only by mutual written agreement signed by both parties. Any such amendments, once executed by both parties, will become part of this Agreement.

PART II: FINANCIAL ARRANGEMENTS

UBC students will complete the third year of the JD program and the PCLL course paying fees to HKU. HKU students will be liable for all fees associated with enrollment in the UBC JD program.

PART III: TERM AND TERMINATION

The term of this Agreement be for a three (3) year period beginning on August 1, 2015 and continuing through July 31, 2018, and can be further renewed with written consent of both parties.

Notwithstanding anything herein to the contrary, should any existing student at either institution be already admitted to the Program at the time this Agreement expires, such rights and obligations of the parties hereunder shall survive the termination or expiry only until the conclusion of the Program's then current offering, so that all students from either institution admitted the Program will be able to complete their legal educations as envisioned by this Agreement.

Notwithstanding the date of execution of this Amended and Restated Agreement, the effective date of this Amended and Restated Agreement shall be August 1, 2015 (the "**Effective Date**").

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed intending to be bound thereby as of the Effective Date.

THE UNIVERSITY OF BRITISH COLUMBIA
PETER A. ALLARD SCHOOL OF LAW

THE UNIVERSITY OF HONG KONG
FACULTY OF LAW

Authorized Signatory

Authorized Signatory

Professor Catherine Dauvergne
Dean

Professor Michael Hor
Dean

Date

Date



6 May 2015

To: Senate

From: Admissions Committee

Re: g) Annual Report on Appeals and Other Matters of Delegated Authority
(information)

(i) Policy J-50: *Secondary School Grade Adjustments for Undergraduate Admission to the University*

In December 2009, Senate approved Policy J-50: *Secondary School Grade Adjustments for Undergraduate Admission to the University*. For the purposes of undergraduate direct-entry admission to the University, grades reported for secondary school applicants outside of the BC/Yukon secondary school curricula may be adjusted to accurately assess those grades in terms of their ability to predict future performance at the University.

To date, the policy has been applied to applicants following the Alberta secondary school curriculum. For entry to the 2015 Winter Session, grades presented for admission were adjusted upwards by 4%.

(ii) Student Mobility Agreements Approved Under Council of Senates Policy C-2: *Affiliations with Other Institutions of Learning*

Under Policy C-2: *Affiliations with Other Institutions of Learning*, the Council of Senates has delegated to the Admissions Committee the authority to approve on its behalf, terms of student mobility agreements for students going to or coming from UBC Vancouver programs.

Since its last report to Senate, the Admissions Committee has approved student mobility agreements with the following institutions:

- Group Ecole Supérieure du Bois (UBC Faculty of Forestry)
- Kazan Federal University (UBC Faculty of Arts)
- University of Stuttgart (UBC Faculty of Science)
- Sungkyunkwan University (UBC Faculty of Arts and Faculty of Education)
- University of York, United Kingdom (UBC Vancouver, all faculties)
- University of Latvia (UBC Faculty of Arts)
- University of Helsinki (UBC Faculty of Arts)
- CentraleSupélec (UBC Faculty of Applied Science)

- Loughborough University (UBC Faculty of Education, School of Kinesiology)
- SGH Warsaw School of Economics (UBC Faculty of Commerce and Business Administration)
- Technical University of Berlin (UBC Faculty of Science)
- Chongqing Municipality University Affiliations (Chongqing University, Southwest University, Chongqing Medical University, Southwest University of Political Science and Law, Sichuan International Studies University) (UBC Vancouver Faculty of Arts, Faculty of Education and Faculty of Medicine)
- University of Exeter Department of Sport and Health Sciences (UBC School of Kinesiology)
- Okayama University (OU) (UBC Faculty of Forestry)
- Università degli Studi di Padova (University of Padova) (UBC Faculty of Forestry)
- Université Pierre et Marie Curie (UBC Faculty of Science)

(iii) Appeals on Applications for Admission, Re-admission and Transfer to Programs (information)

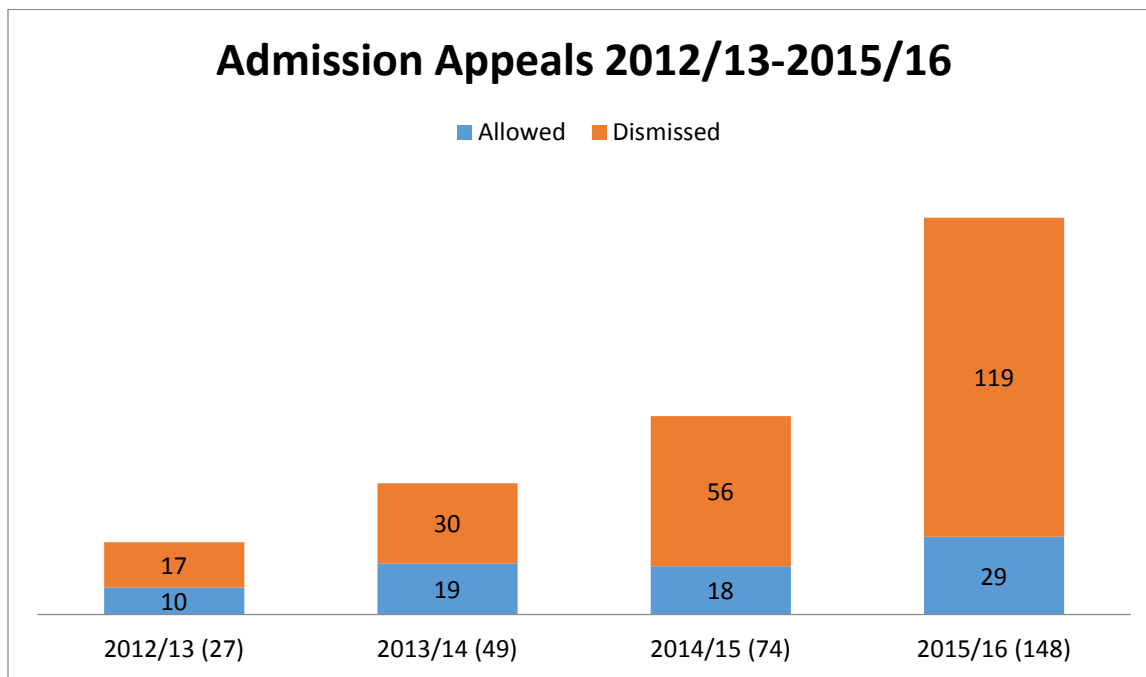
Pursuant to section 37(1)(b) of the *University Act*, the Vancouver Senate has conferred on the Senate Admissions Committee the power to hear final appeals on applications for admission and re-admission to the University. The Admissions Committee also reviews and rules on appeals related to applications for admission/transfer to a Degree or Program.

Between 1 May 2015 and 30 April 2016, the Admissions Committee heard 148 appeals:

- 146 appeals for admission to the University
- 2 appeals for readmission to the University

Of the 148 appeals heard by the Committee, 29 were allowed and 119 were dismissed. Of the total appeals, 122 were against the revocation of an offer of admission. As outlined in the Calendar, the Committee may allow an appeal where it decides that a faculty or school may have overlooked or misinterpreted information provided by the applicant, or arrived at a decision without reasonable consideration of mitigating circumstances, or acted contrary to the faculty's published procedures.

As outlined in the chart below, the volume of appeals has increased substantially over the past few years. The number of appeals considered by the Committee doubled between 2012/13 and 2013/14, and this year, the Committee heard 100% more appeals than in 2014/15. Despite this increase, the reasons for refusal or revocation have remained relatively stable: in the last two years, the most common reason was applicants failing to meet the University's English language admission standard, followed by applicants failing to meet competitive thresholds and/or University minimum admission requirements. Although the Committee is hearing more appeals, the acceptance rate did not increase proportionately, possibly because the most common reasons for refusal or revocation are based on policies that are quite clear.



At its May 2015 meeting, Senate approved a revised policy on admission appeals which clarified the process and detailed the various routes an appeal may follow. The revised process distinguishes between appeals for admission versus those for revocations of offers of admission. It provides greater clarity and guidance for potential appellants through standardized forms enumerating the types of documents required to substantiate an appeal. These changes enable appellants to put forward more complete appeals from the outset, and to facilitate improved communication among faculties, Enrolment Services, the Senate Admissions Committee and the appellant. All appeals for entry to the 2015 Winter Session were adjudicated under the new process. The Committee is of the opinion that direct communication of the right to appeal coupled with a streamlined process has likely contributed to the dramatic increase in the number of appeals submitted.

(iv) Nominal Changes to Admission Requirements and Editorial Changes to Calendar Language

In May 2013, Senate delegated to the Committee final right of approval over nominal changes in admission requirements and editorial changes to Calendar language. From May 2015 until April 2016, the Committee has approved 20 proposals under delegated authority, 4 of which were nominal changes to admission requirements and 16 were student mobility agreements, as per Council of Senates Policy C-2: *Affiliations with Other Institutions of Learning*.

Respectfully submitted,

Dr. Robert Sparks, Chair
Senate Admissions Committee



6 May 2016

To: Vancouver Senate

From: Committee on Appeals on Academic Standing

Re: Annual Report (1 May 2015 – 30 April 2016) (information)

Senate has delegated to the *Senate Committee on Appeals on Academic Standing* the authority to hear and dispose of student appeals from decisions of Faculties in matters of academic standing. The Committee shall allow an appeal where it is found that the decision of the Faculty was arrived at through improper or unfair procedures, and that as a result, a wrong decision on the merits has or may have been arrived at. However, the Committee has no jurisdiction where the sole question raised in an appeal turns on the exercise of academic judgment by a Faculty. The decision of the Committee on an appeal is a final disposition of that appeal. The Vancouver Senate has conferred on the Committee the power of making final decisions pursuant to section 37(1)(b) of the *University Act* (reference: *UBC Calendar, Academic Regulations, Senate Appeals on Academic Standing, sub-section 2.2*).

Students may also appeal to the Committee the refusal of the Registrar to extend the timeline for accepting an appeal, namely within 10 business days of being informed in writing of the Faculty's final decision.

As per section 40(a) of the Rules and Procedures of the Vancouver Senate, the Committee is required to make an annual report to Senate, including the number of appeals heard, their disposition, and the general nature of the appeals.

Since last reporting to Senate in May 2015, 12 appeals proceeded to Committee hearings (as compared with 10 in the prior reporting period), of which 2 were allowed, 2 were allowed in part and 8 were dismissed.

In addition to the 12 appeals concluded, which are summarized below, the Committee has been advised that in the past year an additional 12 appeals were presented to the Registrar, of which 1 was resolved prior to a Committee hearing, 1 was withdrawn by the appellant prior to a Committee hearing, and 10 are in progress and are expected to be heard by the Committee in the upcoming weeks.



Appeals Allowed

- The student appealed a decision of the Faculty to deny academic concession in the form of withdrawal from a course, resulting in failed standing in the course. The Committee allowed the appeal on the basis that the Faculty failed to consider information it ought properly to have considered. The remedy granted by the Committee was 'W' standing for the failed course.
- The student appealed a decision of the Faculty requiring the student's withdrawal from the program of study due to failures in professionalism. The Committee allowed the appeal on the basis that the Faculty's decision was based on unfair procedures; the Faculty's decision was based, either solely or in part, on evidence and information that had not been made available to the appellant and to which the appellant had no opportunity to respond. The Committee overturned the Faculty's decision requiring the student's withdrawal from the program.

Appeals Allowed in-part

- The student appealed a decision of the Faculty to assign failed standing in a course and deny a request for retroactive withdrawal from several courses. The Committee allowed the appeal with respect to the failed standing in a course on the basis that the Faculty decision was arrived at through improper or unfair procedures and that as a result a wrong decision on the merits has or may have been arrived at. The Committee allowed the appeal by granting such academic standing in the failed course as it saw fit in the circumstances. The Committee found on procedural basis on which to allow the request for retroactive withdrawal from other courses.
- The student appealed a decision of the Faculty to deny a request for academic concession in the form of late withdrawals from several courses, which had resulted in the requirement to withdraw from the program. The Committee allowed the appeal in part on the basis that the Faculty failed to consider information it ought properly to have considered. The remedy granted by the Committee was retroactive withdrawal in some courses and reversal of the requirement to withdraw.

Appeals Dismissed

- The student appealed a decision of the Faculty requiring the student's withdrawal from the program of study due to the student's failure to meet program requirements and failures in professionalism. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.



- The student appealed a decision of the Faculty to deny academic concession in the form of withdrawal from a course, resulting in failed standing in the course and withdrawal from the program. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty concerning the grade awarded in a course. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty requiring the student's withdrawal from the program of study due to failures in professionalism. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty to assign failed standing in a course. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty requiring the student's withdrawal from the program of study due to the student's failure to meet program requirements. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty to deny requests for academic concession in the form of late withdrawal from two courses. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.
- The student appealed a decision of the Faculty requiring the student's withdrawal from the program of study due to the student's failure to meet program requirements. The Committee dismissed the appeal and held that the Faculty's decision was not based on improper or unfair procedures, nor was there consideration of any information that ought not to have been considered, nor was there a failure to consider information that ought properly to have been considered.



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Special thanks are due the well-organized, expeditious, and generally unheralded staff at Enrolment Services and Senate and Curriculum Services, who continue to assist the Committee in its valuable and confidential work.

Respectfully submitted,

Dr. Lance Rucker, Chair
Dr. William Dunford, Vice-Chair
Dr. Lawrence Walker, Vice-Chair
Senate Committee on Appeals on Academic Standing

Members of the Committee:

Dr. Lance Rucker (Chair)
Dr. William Dunford (Vice-Chair)
Dr. Lawrence Walker (Vice-Chair)
Mr. Tariq Ahmed
Dr. Stavros Avramidis
Dr. Susan Forwell
Mr. William McNulty
Ms. Shannon Sterling
Mr. Josh Abaki
Ms. Marjan Hatai
Mr. Soroush Liaghat

6 May 2015

From: Senate Awards Committee

To: Senate

Re: New Awards and Changes to Existing Awards (April 2016)

The Awards Committee recommends:

“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.”

New Centennial Scholars Entrance Awards

Maggie BURR Centennial Scholars Entrance Award In Music– A \$4,000 entrance award is offered annually by UBC Music alumna Maggie Burr (nee Margaret Sampson, BMus 1964), to an outstanding domestic student entering UBC’s BMUS program directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. Criteria for this entrance award includes demonstrated academic and leadership achievements in the arts, community, athletics or school with preference given to students currently singing in two choirs or who express an interest in majoring in Voice. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

CARITAS Centennial Scholars Major Entrance Award – Two \$10,000 renewable entrance awards are offered annually to outstanding domestic students entering UBC’s Sauder School of Business 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. Recipients are academically qualified students who would not be able to attend UBC without significant financial assistance. Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

CENTENNIAL Scholars Major Entrance Award – An anonymous donor offers annually renewable entrance awards valued up to \$40,000 over 4 years to outstanding students from under-represented groups entering university directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. Criteria for this entrance award includes demonstrated academic and leadership achievements in the arts, community, athletics, or school. The recipient will be an academically qualified student with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The award is made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

Kate ROSS Centennial Scholars Major Entrance Award – A \$4,000 renewable entrance award is offered annually by Kate Ross (UBC's Associate Vice-President Enrolment Services and Registrar) to outstanding domestic students entering university 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. Recipients are academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The awards are made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

Bickford SYLVESTER Centennial Scholars Major Entrance Award – Renewable entrance awards totalling \$26,000, with a maximum award value of \$10,000, each are offered annually in memory of Dr. Bickford Sylvester to outstanding domestic students entering university directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. Criteria for this entrance awards includes demonstrated academic and leadership achievements in the arts, community, athletics, or school. The recipients will be academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The award is made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

THE University Women's Club Vancouver Centennial Scholars Major Entrance Award –

Renewable entrance awards in the amount of \$3,000 per year are offered annually by The University Women's Club Vancouver to outstanding students from under-represented groups entering university directly from secondary schools, or transferring directly from other colleges and universities, in Canada or abroad. Criteria for this entrance award includes demonstrated academic and leadership achievements in the arts, community, athletics, or school. Recipients will be an academically qualified students with an interest in joining and contributing to the UBC Vancouver community but who would not be able to attend UBC without significant financial assistance. Subject to continued scholarship 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). Candidates must be nominated by a member of their school or community. The award is made on the recommendation of the Centennial Scholars Entrance Award Committee. (First Award Available in the 2016/2017 Winter Session)

New Awards:

Dr. Mohinder Singh DHILLON Bursary – A \$2,400 bursary is offered annually in honour of Dr. Mohinder Singh Dhillon to undergraduate students of Punjabi ancestry studying in the Faculty of Arts. Dr. Dhillon came to Canada in 1967, and while working and with his wife Jasmer raising three children into professional careers, he devoted his time, energy, knowledge, and talent to more than thirty community organizations, including service as an advisory board member for the Canadian Museum for Human Rights and for The University of Winnipeg's Global College. In 2008, Dr. Dhillon received an Honorary Doctorate from the University of Winnipeg. The bursary is adjudicated by Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

FACULTY of Forestry Bursary – Bursaries totalling \$1,300 have been made available through an endowment established by alumni and friends of the Faculty of Forestry for undergraduate students in the Faculty of Forestry. The award is adjudicated by Enrolment Services (First Award Available in the 2016/2017 Winter Session)

FASKEN Martineau DuMoulin LLP Indigenous Entrance Scholarship – A \$1,000 entrance scholarship is offered by Fasken Martineau to an Indigenous student entering the J.D. program at the Peter A. Allard School of Law who has demonstrated academic excellence and community involvement. The award is made on the recommendation of the Peter A. Allard School of Law.

Dr. Marion D. Francis Scholarship in Chemistry – Scholarships totalling \$2,400 have been made available through an endowment established by Dr. Marion D. Francis for students studying Chemistry at the University. Dr. Francis received two degrees from UBC, a BA Chemistry (1946) and an MA Chemistry (1949), followed by a PhD in Biochemistry from the University of Iowa (1953). Throughout his career, Dr. Francis has remained committed to

scientific studies and has been recognized for his contributions winning the Award in Chemical Industry and the Perkin Medal. The award is made on the recommendation of the Department of Chemistry and in the case of graduate students in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

Stanley M GRANT Scholarship in English – Scholarships totalling \$17,500 have been made available through an endowment established by the Estate of Dr. Stanley M Grant for students enrolled in the Department of English who have completed their first year. Dr. Grant (1924-2015) was a graduate of UBC (BA Arts '49). He went on to obtain his MD with a specialty in Pathology at McGill. Dr. Grant was the District Coroner in Nanaimo, BC for a number of years. The awards are made on the recommendation of the Department of English, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

Stanley M GRANT Scholarship in Mathematics – Scholarships totalling \$35,000 have been made available through an endowment established by the Estate of Dr. Stanley M Grant for students enrolled in the Department of Mathematics who have completed their first year. Dr. Grant (1924-2015) was a graduate of UBC (BA Arts '49). He went on to obtain his MD with a specialty in Pathology at McGill. Dr. Grant was the District Coroner in Nanaimo, BC for a number of years. The awards are made on the recommendation of the Department of Mathematics, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

David HUYNH Leadership Award – A \$1,500 award has been made available through an endowment for a student enrolled in the Bachelor of Commerce Degree Program at the Sauder School of Business. The award supports a student who is involved in student activities and has demonstrated genuine and exemplary leadership through an understanding of the following values: investment in meaningful connections; holding others to the best version of themselves; giving back to a world beyond their own. These are values David Huynh held and through his actions and impact, taught to so many around him. At the age of 22, David Huynh passed away before entering his final year at Sauder. David was an inspiring student leader within the Sauder community and this award is a tribute and reminder of the legacy and lasting impact he had as a role model, mentor, leader and community-builder. He is remembered for his heart-warming generosity, dedication to others, and passion for extra-curricular involvement where he invested his time and energy to helping individuals realize their potential while taking every opportunity to learn and develop. Preference will be given to students who demonstrate financial need. The award is made on the recommendation of the Sauder School of Business. (First Award Available in the 2016/2017 Winter Session)

Donald MACDOUGALL Memorial Bursary – A \$1,000 bursary has been made available through an endowment established by family, friends and colleagues in memory of Donald MacDougall for an undergraduate student at the Peter A. Allard School of Law. 1. Raised by his

mother in Melbourne, Australia, Professor MacDougall supported himself through the University of Melbourne and graduated with an LL.B. in 1956. He pursued graduate studies in conflicts law at the University of Chicago. In 1965, he and his wife moved to Vancouver, where he was a professor at the Peter A. Allard School of Law where he taught and wrote extensively on Family Law, Children and the Law, Negotiation and Dispute Resolution, and Seniors and the Law. He was a founding member of the International Society of Family Law, was the Managing Editor of the Canadian Journal of Family Law, and served on boards for numerous legal societies, journals and publications. The award is adjudicated by Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

MAJOR Entrance Scholarship – Scholarships valued up to \$15,000 over two years are offered annually by The University of British Columbia to outstanding domestic students entering university directly from secondary schools in Canada or abroad. Criteria for these scholarships include demonstrated academic and leadership achievements in the arts, community, athletics, or school. Subject to continued scholarship standing, the scholarships will be renewed for a second year of study. Scholarships are awarded based on information provided in the Admission Application and Personal Profile. The awards are made on the recommendation of Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

John MEECH Memorial Award – A \$1,000 award is offered annually in memory of John Meech to a mining engineering student who shows outstanding leadership skills. The award is named in memory of Professor John Meech, a faculty member in the Department of Mining Engineering for 26 years and whose dedication to the Faculty will never be forgotten. The award is made on the recommendation of the Department of Mining Engineering, and in the case of graduate students, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

SAUDER School of Business UBC Rugby Award – Awards totalling \$5,000 are offered annually to undergraduate students enrolled at the Sauder School of Business in any year of study who are also members of the Men's or Women's Varsity Thunderbird Rugby teams, with the total award value to be assigned equally between the Men's and Women's teams. This award may be renewable provided the award recipient(s) maintain award standing and membership on the Varsity Rugby team. If there is no Sauder School of Business student on one of the teams in any given year, the full award value will be made available to the other team. The award is made on the recommendation of the Sauder School of Business in consultation with UBC Athletics. (First Award Available in the 2016/2017 Winter Session)

SAUDER School of Business UBC Soccer Award – Awards totalling \$5,000 are offered annually to undergraduate students enrolled at the Sauder School of Business in any year of study who are also members of the Men's or Women's Varsity Thunderbird Soccer teams, with the total award value to be assigned equally between the Men's and Women's teams. This award may be renewable provided the award winning student(s) maintain award standing and

membership on the Varsity Soccer team. If there is no Sauder School of Business student on one of the teams in any given year, the full award value will be made available to the other team. The award is made on the recommendation of the Sauder School of Business in consultation with UBC Athletics. (First Award Available in the 2016/2017 Winter Session)

SERB-UBC Scholarship – Up to five scholarships of \$24,000 per year for up to four years are provided by India's Science and Engineering Research Board (SERB). Scholarship recipients will also receive funding from UBC to cover tuition costs. Up to five new scholarships will be offered each year to outstanding PhD students in the fields of science, technology, engineering and mathematics who are resident in India at the time of application. The scholarships are available to students studying at either the Vancouver or Okanagan campus. Renewal of scholarship funding for the full four years is conditional upon recipients making satisfactory progress in their studies. The awards are made on the recommendation of SERB, in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

Gareth and Mae SHEARMAN Memorial Bursary – Bursaries totalling \$3,500 have been made available through an endowment established by the Estate of Violet Mae Shearman (1940-2015). The bursaries will be awarded to undergraduate students who have completed their first year of studies in the Faculty of Land and Food Systems at the Vancouver campus. Preference will be given to students from the North Okanagan. Mae Shearman was extremely proud of being a UBC graduate, having graduated with a Bachelor of Home Economics in 1963. She grew up in the North Okanagan and struggled financially to complete her education at UBC. This award is designed to support students who would have a similar background to that of Mrs. Shearman's. Gareth (Gary) and Mae Shearman were married for over 42 years. (First Award Available in the 2016/2017 Winter Session)

SOUTHERN Medical Program Class of 2018 Bursary - Two bursaries of \$1,250 are offered annually to students entering their second year of the UBC Faculty of Medicine Southern Medical Program. Funding is made possible through proceeds generated from the Southern Medical Program Student Welcome Reception held in January every year. The award is adjudicated by Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

Jack and Mary STONE Award for Women in Business – A \$4,000 award is offered annually by Jack Stone to a female student enrolled in the Bachelor of Commerce program at the Sauder School of Business. Preference is given to a candidate specializing in marketing or finance who has demonstrated leadership in the community. Jack and his late wife Mary believed strongly in the importance of education to enable women to have successful careers. They have contributed throughout their lives to higher education and want to encourage the recipient of this award to consider this spirit of giving once they are secure in their careers. The award is made on the recommendation of the Sauder School of Business. (First Award Available in the 2016/2017 Winter Session)

Becky TARBOTTON Memorial Scholarship – A \$2,000 scholarship has been made available through an endowment established by the Tarbotton family and friends in memory of Rebecca (“Becky”) Tarbotton, for a second-year graduate student in the School of Community and Regional Planning (SCARP) in the Faculty of Applied Science who demonstrates exceptional leadership and commitment in the fields of environmental and social justice. Becky was a vibrant and inspirational leader and visionary who graduated from SCARP and dedicated her career to protecting the environment and defending human rights. The award is made on the recommendation of the School of Community and Regional Planning in consultation with the Faculty of Graduate and Postdoctoral Studies. (First Award Available in the 2016/2017 Winter Session)

UNIVERSITY Entrance Scholarship – Scholarships valued up to \$10,000 are offered annually by The University of British Columbia to outstanding domestic students entering university directly from secondary schools in Canada or abroad. Criteria for these scholarships include demonstrated academic and leadership achievements in the arts, community, athletics, or school. Scholarships are awarded based on information provided in the Admission Application and Personal Profile. The awards are made on the recommendation of Enrolment Services. (First Award Available in the 2016/2017 Winter Session)

Previously-Approved Awards with Changes in Terms or Funding Source:

Present Award Title and Description: Elizabeth and Leslie GOULD Entrance Scholarship for Engineering – Up to 5 scholarships valued at \$2,500 each are offered annually to outstanding domestic or international students entering ~~their first year~~ of the Bachelor of Applied Science program in Engineering. The awards are based primarily on the student’s scholarly achievement; however co-curricular activities and leadership potential will be considered. Subject to continued scholarship standing, the scholarships may 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 Faculty of Applied Science.

Proposed Award Title and Description: Elizabeth and Leslie GOULD Entrance Scholarship for Engineering – Up to five scholarships valued at \$2,500 each are offered annually to outstanding domestic or international students entering **any year level** of the Bachelor of Applied Science program in Engineering. The awards are based primarily on the students’ scholarly achievement; however co-curricular activities and leadership potential will be considered. Subject to continued scholarship standing, the scholarships may 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 Faculty of Applied Science.

Rationale for Proposed Changes – Type of Action: in collaboration with the Faculty of Applied Science, to reflect the Faculty's desire for greater flexibility, we are opening the award to any entering BASc student, regardless of year level.

#814

Present Award Title and Description: G. Gary Runka Award in Agricultural Soil Science –

A \$1,000 award has been made available through an endowment established by family, professional colleagues and friends of Gary Runka for an undergraduate or graduate student in the Faculty of Land and Food Systems. The recipient must be in good academic standing and engaged in field studies of soils or land use ~~and their interpretation for the wide range of~~ land and water uses that impact agriculture. Preference will be given to a candidate whose field project focuses on biophysical information ~~and~~ land capability/suitability interpretation, ~~mentoring and field knowledge transfer amongst professionals in the soil sciences and/or enhances the contribution of agriculture to~~ building sustainable rural communities. This award ~~is intended to~~ honour G. Gary Runka [BSc. Ag (Soils), 1961] whose contribution to land inventory, agriculture, natural resource management and land use planning helped shape BC land use policy over five decades. Gary was dedicated to the use of field knowledge as the basis for understanding and resolving land and water use issues. The award is made on the recommendation of the Faculty of Land and Food Systems and, in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.

Proposed Award Title and Description: G. Gary Runka Award in Agricultural Soil Science

– A \$1,000 award has been made available through an endowment established by family, professional colleagues and friends of Gary Runka for an undergraduate or graduate student in the Faculty of Land and Food Systems. The recipient must be in good academic standing and **be** engaged in **integration of** field studies **focused on** soils or land use **studies related to** land and water uses that impact agriculture **and integrated resource management**. Preference will be given to a candidate whose field project focuses on biophysical information, land capability/suitability interpretation, **and, in collaboration with practicing professionals, the transfer of soil science knowledge to enhance agriculture and its role in** building sustainable rural communities. This award **honours** G. Gary Runka [BSc. Ag (Soils), 1961] whose contribution to land inventory, agriculture, **integrated** natural resource management and land use planning helped shape **British Columbia's** land use policy over five decades. Gary was dedicated to the use of field knowledge as the basis for understanding and resolving land and water use issues. The award is made on the recommendation of the Faculty of Land and Food Systems and, in the case of a graduate student, in consultation with the Faculty of Graduate and Postdoctoral Studies.

Rationale for Proposed Changes – Type of Action: upon donors' requests, and in collaboration with the donors and the Faculty, we are changing the award description to better

identify those student candidates that work on the same issues Gary Runka was passionate about and would therefore better fit the donors' original intention in establishing this award.

#1028

Present Award Title and Description: Hoegg Family MBA Scholarship – A \$10,000 scholarship ~~is~~ offered annually by the Hoegg Family to ~~the top female Canadian~~ student entering the Masters of Business Administration program at the Sauder School of Business. The award ~~is~~ made on the recommendation of the Sauder School of Business.

Proposed Award Title and Description: Hoegg Family MBA Scholarship: Two \$15,000 scholarships **are** offered annually by the Hoegg Family to students **entering the Masters of Business Administration program at the Sauder School of Business. One award is directed to a female International student and one to a female Canadian citizen or permanent resident. Recipients are selected based on academic merit and leadership skills.** The awards **are** made by the Sauder School of Business.

Rationale for Proposed Changes – Type of Action: upon donor's request, and in collaboration with the Faculty, we are increasing the number of scholarships available and the dollar value of each award; we are also including international students among the eligible candidates and we are changing the selection criteria.

#1179

Present Award Title and Description: India Club Prize in Asian Studies – A prize of \$500, donated by the India Club, is awarded to a student in the Asian Studies Department, with particular interest in Hindi or Sanskrit courses. The award is made on the recommendation of the Department.

Proposed Award Title and Description: Hindu Cultural Society & Community Centre of BC Prize in Asian Studies – A \$500 prize is offered annually through the Hindu Cultural Society & Community Centre of BC, to a student in the Asian Studies Department, with particular interest in Hindi or Sanskrit courses. **This prize was originally established in 1977 by the India Club which was restructured in 2016. The Hindu Cultural Society & Community Centre of BC has generously offered to continue the support of this prize in honor of the India Club.** The award is made on the recommendation of the Department of Asian Studies.

Rationale for Proposed Changes – Type of Action: upon donor's request, we have changed the award title and description to reflect the donor's new name.

#2195

Present Award Title and Description: Fluor Canada Ltd. Award in ~~Mineral Process Engineering~~ – An award of \$1,750 is offered annually by Fluor Canada Ltd., to a student entering their 3rd or 4th year of a program ~~leading to an undergraduate degree in~~ Mineral Process Engineering. Preference will be given to a student entering 4th year. Candidates must have achieved at least a B average in their previous year of study and have demonstrated leadership and initiative through organization of and/or participation in campus and community activities. The award is made on the recommendation of the Head of the Department of Mining and Mineral Process Engineering.

Proposed Award Title and Description: Fluor Canada Ltd. Award in Mining Engineering - An award of \$1,750 is offered annually by Fluor Canada Ltd., to a student entering their 3rd or 4th year of a program **concentrating on** Mineral Process Engineering. Preference will be given to a student entering 4th year. Candidates must have achieved at least a B average in their previous year of study and have demonstrated leadership and initiative through organization of and/or participation in campus and community activities. The award is made on the recommendation of the Head of the Department of Mining Engineering.

Rationale for Proposed Changes – Type of Action: in collaboration with the Department, we are changing the award title and description because UBC students concentrate on the area of Mineral Processing but do not pursue undergraduate degrees in this discipline.

#3327

Present Award Title and Description: India Club Scholarship in Music – ~~A scholarship of~~ \$500 is offered ~~by the India Club~~ to a student in the School of Music. The award is made on the recommendation of the School.

Proposed Award Title and Description: Hindu Cultural Society & Community Centre of BC Scholarship in Music – **A \$500 scholarship is offered annually through the Hindu Cultural Society & Community Centre of BC, to a student in the School of Music. **This scholarship was originally established in 1984 by the India Club which was restructured in 2016. The Hindu Cultural Society & Community Centre of BC has generously offered to continue the support of this scholarship in honor of the India Club.**** The award is made on the recommendation of the School of Music.

Rationale for Proposed Changes – Type of Action: upon donor's request, we have changed the award title and description to reflect the donor's new name.

#3780

Present Award Title and Description: Marion L. Pearson Scholarship in Pharmaceutical Sciences – Scholarships totalling \$1,400 have been ~~endowed~~ by Marion L. Pearson for undergraduate students entering second or third year in Pharmaceutical Sciences who have achieved excellence in ~~Pharmacy Practice~~. The awards are made on the recommendation of the Faculty of Pharmaceutical Sciences.

Proposed Award Title and Description: Marion L. Pearson Scholarship in Pharmaceutical Sciences – Scholarships totalling \$1,400 have been **made available through an endowment established** by Marion L. Pearson for undergraduate students entering second or third year in Pharmaceutical Sciences who have achieved excellence in **medication management, which represents a contemporary model of pharmacy practice**. The awards are made on the recommendation of the Faculty of Pharmaceutical Sciences.

Rationale for Proposed Changes – Type of Action: upon donor's request, and in collaboration with the Faculty, we are changing the wording "Pharmacy Practice" with "Medication Management" to better fit the new Entry-to-Practice PharmD program.

#5000

Present Award Title and Description: NAIOP Real Estate Challenge Award – ~~Eight \$1,000 awards~~ are offered annually by NAIOP Vancouver, the Commercial Real Estate Development Association, to students enrolled in the Bachelor of Commerce program at the Sauder School of Business. The awards are given to students in the Real Estate Option who participate in the annual NAIOP Real Estate Challenge and recognize the students' sacrifices of time and energy, and dedication to excellence and teamwork. The awards are made on the recommendation of the Sauder School Business in consultation with the Centre for Urban Economics and Real Estate.

Proposed Award Title and Description: NAIOP Real Estate Challenge Award - **Awards totalling \$8,000** are offered annually by NAIOP Vancouver, the Commercial Real Estate Development Association, to students enrolled in the Bachelor of Commerce program at the Sauder School of Business. The awards are given to students in the Real Estate Option who participate in the annual NAIOP Real Estate Challenge and recognize the students' sacrifices of time and energy, and dedication to excellence and teamwork. The awards are made on the recommendation of the Sauder School Business in consultation with the Centre for Urban Economics and Real Estate.

Rationale for Proposed Changes – Type of Action: upon donor's request, we are changing the description to allow greater flexibility in the assignment of the awards both in terms of award value and number of awards given out.

#5125

Present Award Title and Description: University of BC and University of Warwick International Learning Award - ~~The Moss Rock Park Foundation offers 2 awards valued at~~ up to \$4,000 each for undergraduate or graduate students participating in a student exchange program between UBC and the University of Warwick. The awards will be available to UBC students who are Canadian citizens or permanent residents of Canada and to Warwick students who are British citizens. The field of study is History, Political Science/Politics and English Literature. Students need to demonstrate how their studies involve an aspect of Anglo-Canadian relations. At the conclusion of their studies abroad, each student will provide the funder with a summary of between 1,500-2,500 words explaining how their studies improved his/her understanding of Anglo-Canadian relations. The award is made on the recommendation of Go Global.

Proposed Award Title and Description: University of BC and University of Warwick International Learning Award – Two awards valued up to \$5,000 each are offered annually for undergraduate or graduate students participating in a student exchange program between UBC and the University of Warwick. The awards will be available to UBC students who are Canadian citizens or permanent residents of Canada and to Warwick students who are British citizens. The field of study is History, Political Science/Politics and English Literature, **Creative and Performing Arts, Math and Law**. At the conclusion of their studies abroad, each student will provide the funder with a summary of between 1,500-2,500 words explaining how their studies improved his/her understanding of Anglo-Canadian relations. The award is made on the recommendation of Go Global.

Rationale for Proposed Changes – Type of Action: upon donor's request for anonymity, we are removing the donor's name from the description. The donor has also requested to broaden eligibility criteria so as to include students in Creative and Performing Arts, Math and Law; finally, award value has been increased so that each student now receives awards up to \$5000 instead of \$4000.

#6415

Present Award Title and Description: Paul Geyer Graduate Award in Biomedical Engineering – Two awards of \$2,000 have been endowed by Paul Geyer for ~~graduate~~ students in the Biomedical Engineering Program in the Faculty of Applied Science. Preference is given to students with an entrepreneurial spirit, an interest in the local biomedical engineering industry, and demonstrated leadership and communication skills. ~~Recipients must be Canadian citizens or Permanent Residents.~~ The award is made on the recommendation of the Faculty ~~in consultation with the Faculty of Graduate and Postdoctoral Studies.~~

Proposed Award Title and Description: Geyer Family Award in Biomedical Engineering – Two awards of \$2,000 **each** have been made available through an endowment established by

Paul Geyer for **undergraduate** students **who are Canadian citizens or permanent residents of Canada and who are** in the Biomedical Engineering Program in the Faculty of Applied Science. Preference is given to students with an entrepreneurial spirit, an interest in the local biomedical engineering industry and demonstrated leadership and communication skills. The award is made on the recommendation of the Faculty of Applied Sciences.

Rationale for Proposed Changes – Type of Action: upon donor's request, we are changing the award title and the award eligibility criteria, the latter change to better reflect the donor's intention to have a larger pool of qualified students; in collaboration with the donor and the Faculty, we have also increased the award value so that it can be used by the Faculty to recruit students specifically interested in studies in Biomedical Engineering.

#6589

Present Award Title and Description: Sutton MacGregor Doctoral Student Research Award in Political Science - ~~Two or more~~ awards totalling ~~\$2,500~~ are offered annually to students in the doctoral program in the Department of Political Science. The awards will cover travel expenses directly related to the dissertation research and/or data collection cost. Students must provide a rationale for their application and a budget demonstrating a clear link between the need for the award and furtherance of their dissertation research. The awards are made on the recommendation of the Department of Political Science, in consultation with the Faculty of Graduate and Postdoctoral Studies.

Proposed Award Title and Description: Sutton MacGregor Doctoral Student Research Award in Political Science – Awards totalling **\$5,000, with a maximum award value of \$2,500 each**, are offered annually to students in the doctoral program in the Department of Political Science. The awards will cover travel expenses directly related to the dissertation research and/or data collection cost. Students must provide a rationale for their application and a budget demonstrating a clear link between the need for the award and furtherance of their dissertation research. The awards are made on the recommendation of the Department of Political Science, in consultation with the Faculty of Graduate and Postdoctoral Studies.

Rationale for Proposed Change – Type of Action: the donor wanted to be clear that \$5,000 will be provided each year. A maximum award will be \$2,500. However, if someone only needs \$1,000 for their work, then that year might be an award of \$1,000, \$1,500 and \$2,500. The intention is to provide an award size based on need, not a set award amount each year.



18 May 2016

To: Vancouver Senate

From: Senate Curriculum & Admissions Committees

Re: Master of Health Leadership and Policy in Clinical Education (approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Applied Science and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Master of Health Leadership and Policy (M.H.L.P.) in Clinical Education (C.E.) degree program and its associated new course be approved.”*

Respectfully submitted,

Dr. Kenneth Baimbridge, Senate Curriculum Committee
Dr. Robert Sparks, Chair, Senate Admissions Committee



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

FACULTY OF APPLIED SCIENCE

New program and new course

Applied Science>Master of Health Leadership and Policy in Clinical Education; NURS
531 (3) Theoretical Foundations of Clinical Education

EXECUTIVE SUMMARY
Masters of Health Leadership & Policy in Clinical Education
School of Nursing
FACULTY OF APPLIED SCIENCE
UNIVERSITY OF BRITISH COLUMBIA
March 23, 2016

Overview

The University of British Columbia is 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. Since 1915, UBC's West Coast spirit has embraced innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning. The program strives to provide students with a comprehensive and innovative education that enables them to build on their past work experience and technical skills, adding leadership and interdisciplinary opportunities for learning and interaction with other students. Consultation with stakeholders has revealed that experienced practitioners and early-career professionals in the chosen focus areas require sector-relevant, cross-disciplinary technical skills. They also require project management, communication and business skills to be effective leaders.

The proposed program will focus on developing Highly Qualified Personnel to respond to the need for skilled clinicians to provide care in the rapidly evolving healthcare sector. This sector is facing unprecedented change as a consequence of emerging technologies, shifting demographic profiles and the introduction of new foci and approaches to the provision of clinical care in order to improve the health of Canadians and to contain costs of healthcare delivery. In the face of these changes there is a great demand for clinical educators with knowledge of how to design, deliver and evaluate clinical education programs in clinical practice environments.

There is a provincial, national and international need to build capacity in healthcare in order to respond to the current and developing trends in clinical practice. Analyses show that there is a need for professionals with both technical knowledge & skills related to the design, delivery and evaluation of clinical education *and* knowledge of policy, leadership and business practices relevant to clinical education. Canada currently has neither the trained personnel required to meet these needs, nor the means of training them. There are currently no other Canadian institutions that offer graduate level programs with the proposed combined Platform (business practices) & Pillar (Clinical Education) structure.

The UBC School of Nursing is recognized as one of the leading research-intensive university-based Schools of Nursing in the world. As a practice based discipline, faculty are engaged in the scholarship of nursing education, leadership and practice. This includes documented success in working in partnership with the health care delivery sector to build the clinical capacity for innovative practice approaches to respond to the clinical care needs of populations within diverse settings.

This proposed one year program will be offered as one of the suite of professional programs offered in partnership between the UBC School of Nursing, the Faculty of Applied Science and the Faculty of Commerce and Business Administration (also known as the Sauder School of Business). The program will follow the conceptual structure of professional programs in APSC and include foundational 'platform' courses that focus on business and management practices and technically focused 'pillar' courses that in this case will focus on the acquisition of knowledge and skills related to clinical education.

The 'pillar' courses will assist students in acquiring the knowledge and skills that will enable them to complement their clinical practice expertise with philosophical positions on teaching & learning and knowledge of approaches to the design, delivery and evaluation of a diverse array of learning experiences to meet basic to complex learning goals related to clinical education. The pillar courses will also be available to students enrolled in other masters programs in the School of Nursing.

The 'platform' courses, which focus on the development of management and leadership skills, will enable students to consider education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity. Graduates will develop the ability to manage and lead clinical education teams within diverse institutions.

Trends and practices in healthcare delivery are not only shaped by emerging research and technologies, they are also informed by government and institutional policies. Clinical educators are important members of leadership teams and are called upon to analyze policies that shape trends in practice and to draw upon these analyses to propose educational strategic initiatives to ensure that organizations have clinical staff with the necessary knowledge and skills to ensure quality care is provided and practice standards are met. In clinical practice settings educators must also have knowledge and skills that enable them to manage and lead programs. Thus, the dual focus of the proposed MHLP in Clinical Education will ensure that graduates are positioned to fill this need.

The demand for this particular program comes from multiple points. British Columbia and Canada need clinical educators to build clinical capacity to respond to emerging demographic trends. The current lack of capacity within health professions constrains the Health Authorities' ability to provide needed clinical services and foster the health of the population. The need for knowledgeable and skilled clinicians has prompted a diversification within different professional groups and prompted the articulation of organizational strategies to build capacity within clinical practice settings. Clinical educators play an essential role in the education of pre-licensure clinicians and in the ongoing professional development of practicing professionals. UBC, because of its location, faculty research and recognition for educational innovation in both undergraduate and graduate education is well positioned to implement a graduate-level program that is lacking in Canada and now more important than ever.

This proposed program is designed to educate clinical educators who are skillful in practice, have the requisite judgment and capacity for clinical decision making and knowledge of regulatory policies and practice standards in the public sphere, and have the capacity to analyze

the impact of emerging technologies, trends in the organization of healthcare delivery, and trends in clinical services provision is essential to ensuring an effective system. Highly qualified professionals are key to securing Canada's commitment to improving the health of Canadians and ensuring access to quality healthcare for its citizens. Building capacity within the healthcare sector is essential to achieving this goal in Canada and in other jurisdictions throughout the world. By offering the program, UBC will become an invaluable player in both national and international development.

Credential

The credential awarded will be the Master of Health Leadership and Policy (M.H.L.P.) in Clinical Education (C.E.).

Location

The Vancouver Campus of UBC is the main location for classroom education and administration. Course instruction and assignments will be achieved through collaborations between UBC faculty and clinical practice partners.

Faculty Offering Program

The program will be offered formally, administered and delivered by the UBC Faculty of Applied Science and the UBC School of Nursing (Vancouver). The courses in the program related to business management and organization will be delivered by the Faculty of Commerce and Business Administration (Sauder School of Business).

Program Start Date

The program will be offered in the 2016/17 academic year, beginning in January 2017.

Program Completion Time

Anticipated time for completion of the program is 1 year of full-time academic study, including any work-term placements and non-academic activities.

Objectives of the Proposed Program

This graduate program is designed to prepare health professionals to design, deliver and evaluate clinical education for practicing and pre-licensure clinicians and to apply knowledge of management and leadership practices within clinical practice and education settings. Through the program students will acquire the knowledge and skills that will enable them to complement their clinical practice expertise with philosophical positions on teaching and learning and the ability to apply a number of pedagogical approaches to the design, delivery and evaluation of a diverse array of learning experiences to meet basic to complex learning goals related to clinical education. The graduates will acquire knowledge of business and management practices enabling them to manage and lead interdisciplinary teams and critically appraise policies that shape clinical practice. They will consider education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity.

The program will:

- Equip tomorrow's clinical education professionals with the critical thinking and practical skills necessary to make important contributions to the healthcare sector in BC and globally;
- Capitalize on Vancouver's diverse healthcare environment and UBC's current stakeholder connections by offering an attractive hands-on education that allows students to get valuable work experience; and allows BC's healthcare sector to benefit from the minds of UBC's top graduate-level students;
- Link the concerns of extra-university partners by offering students a project-based curriculum that explores cutting edge concepts in collaboration with healthcare professionals in the Vancouver region;
- Emerge as the leading institution for the continuing education of current leaders in the healthcare clinical education and for the training of tomorrow's leaders;
- Graduate highly skilled professionals who can fill the jobs gap currently existing and expected to increase in Canada in the foreseeable future; and
- Continue to develop a high profile faculty with recognized expertise in the theory and practice of clinical education.

Program Learning Outcomes

Graduates of the MHLP in Clinical Education will be able to:

- Critically analyze professional practice standards and regulatory policies to determine their implications for clinical practice education;
- Analyze practice trends and issues to identify gaps in knowledge and skills of practitioners and develop an educational strategy for addressing them;
- Explicate theories informing clinical practice(s);
- Design learning experiences that enable students to analyze clinical practice situations and develop clinical judgement in increasingly complex clinical practice environments;
- Design learning experiences to achieve simple to complex learning outcomes. (*Knowledge, analysis, application, skills, concepts and program goals core to clinical practice.*)
- Effectively use technologies and simulation as learning strategies;
- Employ a variety of approaches to assessment, testing and evaluation and evaluate their appropriateness for assessing learners' needs and for evaluating different types of learning outcomes;
- Understand professional regulatory standards and approval processes for clinical practice and professional education and know how standards may be met through the design & delivery of curricula & learning experiences;
- Consider clinical education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity; and
- Manage and lead clinical education teams within diverse institutions.

Contribution to UBC's Mandate and Strategic Plan

In *Place and Promise: The UBC Plan*, our vision statement is: "As one of the world's leading universities, The University of British Columbia 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 program will act as one route to the fulfillment of this promise. With the involvement of faculty from APSC ,

including the School of Nursing, and the partnership of the Faculty of Commerce and Business Administration; the development of new facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, sponsored project topics, and placements for fieldwork and practica, the program will offer an exceptional learning environment for students and faculty. In addition, the program will attract students from around the world to study in Vancouver's diverse environment and graduate students, who will, in turn, be in demand across the globe.

Delivery Methods

The Faculty of Applied Science (APSC) has taken the lead in developing a conceptual framework for new Professional Programs comprising a common "Platform" that provides the professional skills required for an experienced graduate to be an effective professional leader, with "Pillars" of specialization courses in particular sectors relevant to APSC's educational mission and professional communities (the term Platform refers to foundation coursework focused on project management, data analysis, and leadership skills, while the term Pillar is equivalent to specialization.) The program will be delivered as an intensive one-year program. It is anticipated that this program will be favourable to clinicians already in the workplace. The Platform will be delivered by faculty from APSC and the Sauder School of Business.

The Pillar courses will be delivered by faculty from the School of Nursing. The MHLP in CE program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform providing the professional skills required for an experienced graduate to be an effective leader in practice and 18 credits dedicated to the Pillar in advanced courses related to clinical education. Both the Platform and the Pillar have prescribed core courses. For this program there will be 1.5 elective credits business platform courses. Constrained electives will be offered to students that have taken significantly similar core pillar courses.

Linking Learning Outcomes and Curriculum Design, Optional Work-terms

The number and variety of courses available to students is purposely limited to ensure a robust and streamlined learning experience that is centered on the program learning outcomes. Each of these outcomes corresponds to at least one of the core courses and summarizes the goal of that course. Work experience is an essential admission requirement.

Program Strengths

The program offers a comprehensive curriculum that is grounded in collaborative projects, embedded in the Platform coursework, and that draws upon the combined expertise of faculty in the participating units. The Clinical Education Pillar focuses on developing Highly Qualified Personnel needed for the rapidly evolving Health Care education sector. There is a great demand for clinical educators within Health Authorities and within educational settings. For example, Health Authorities hire clinical educators in order to ensure staff are appropriately oriented, and acquire disease and site specific knowledge to uphold practice standards in a range of practice sites (ie. Community and public health; Surgical and Medical subspecialty areas Oncology, Obstetrics, Pediatrics). The UBC School of Nursing is well positioned to develop and offer this program and lead initiatives in Clinical Education because of the knowledge and expertise that is foundational to nursing programs (ie. health promotion, primary health care, provision of acute & specialized care in a range of community to institutional contexts; processes of service

delivery, interpersonal communication and inter-professional education etc.) and the roles played by nurses in the design and delivery clinical education programs. The proposed program builds upon research strengths and expertise within the Faculty and builds synergies that align with UBC priorities such as excellence in socially relevant research & practice.

The curriculum is designed for the student to develop a solid understanding of the design, delivery and evaluation of clinical education experiences. The design process included consultations with leaders in clinical practice and an analysis of emerging trends in healthcare nationally and internationally and emerging workforce projections. The School of Nursing and its faculty have established robust working relationships with other academic units and enact their teaching and conduct their research in interdisciplinary and intersectoral partnerships. The School has strong support from their practice partners for the program concept and these partners (from both public and private sectors and a range of health and other disciplines) have offered to support students' learning. We could identify no existing programs within British Columbia, North America or internationally that offer this program's unique combination of technical skills development in clinical education and advanced leadership training in management and health care policy.

Institutional Contact

University of British Columbia

Faculty of Applied Science

Elizabeth Croft, Associate Dean, Education & Professional Development

604-822-6614 elizabeth.croft@ubc.ca

Appendix to the Executive Summary (for internal UBC purposes only)

Briefly describe the resources that will be required for the program:

Budget and Funding

[Removed for purposes of Curriculum.]

Space Requirements

Dedicated space for APSC Professional Programs is being developed within a new building to be completed in 2020. UBC has swing space available which will be used as interim accommodation until new facilities are ready.

Library

The library consultation for the MHLP in Clinical Education program has been completed and in subsequent meetings with the librarians they have expressed an interest in working with us to support the delivery of the program. The Platform courses will not require any additional Library support. Pillar courses with references are based on existing Nursing courses and should not require any additional library support.

1. Introduction

This proposal represents one of a suite of new professional programs to be offered at the master's level in the Faculty of Applied Science (APSC). The programs were developed in parallel and will be delivered in parallel. That is, there will be a common start date and timeline for cohorts in all of the programs. A key feature of this suite of programs is that they are structured in two parts, which will be referred to as the "Platform" and the discipline-specific "Pillar". The Platform is foundational coursework focused on project management, data analysis, and leadership skills; it is a largely common element accessible to the suite of new APSC professional programs. The Pillar is equivalent to a specialization; it contains technical material specific to Clinical Education. Successful completion of the Platform and a Pillar will result in the granting of one degree. Details of the contents of both the Platform and the Clinical Education Pillar are documented in this proposal.

2. Program Rationale

2.1. Defining the Need for the Program

Members of the University's Flexible Learning Initiative and the APSC Dean's office have formed and worked closely with a Program Advisory Committee consisting of faculty from all areas of APSC. The following program proposal is the result of collaborative planning on the part of this committee.

2.2. Professional Program Mission Statement and Context

*The University of British Columbia, Faculty of Applied Science, wishes to attract students into a **high quality, sector-focused, distinctive & integrated** Applied Science Professional Program that has resources to be delivered sustainably and fiscally meets the University's goals.*

1. **UBC continues to encourage innovative** learning approaches within the fiscal model of cost recovery.
2. **The Flexible Learning Strategy** introduced in 2014 lists the development of new Professional Programs as a priority.

UBC has the opportunity to deliver a distinctive APSC Program in line with the University's Professional Program objectives.

2.3. Applied Science Professional Program Approach

2.3.1. Guiding Principles of the Program Advisory Committee

1. There will be meaningful engagement with stakeholders in market research, development, delivery and career opportunities.
2. Our target market is candidates who might consider either a Masters of Business Administration (MBA) or Masters of Science in Nursing (MSN), but would prefer to develop both sector-relevant technical skills and management and leadership skills – our program will be distinctive in the market.
3. We will take advantage of standardized core courses to improve quality while reducing costs and complexity.
4. The program will be positioned as a premium alternative to a conventional professional master's program by offering distinctive, high quality, cross-disciplinary technical and

non-technical skills to the experienced professional who wants to become a Sector Specialist.

5. Pillars are developed around areas of unique research and teaching strength in APSC, where multiple program “Faculty Champions” are identified, that have strong relevance to our professional community and societal benefit, have strong learner demand, and have strong industry demand for people trained in this sector.
6. Graduate courses offered in the Clinical Education Pillar will be open to all APSC graduate students with the appropriate prerequisites and co-requisites, and similarly to students in other graduate programs, space permitting. This will allow Nursing to revitalize our graduate program offerings around areas of research and teaching strength, build strong interdisciplinary sector training capacity, and improve our connections to our professional community.

2.3.2. Extensive Market Research was used to Develop the Value Propositions

In order to establish the viability of offering new programs, the following activities were undertaken to validate the structure and proposed Pillars. Market research information is provided in Appendix 6. The objectives and curriculum were developed in conjunction with meaningful stakeholder consultation in 3 phases.

2.3.2.1 Market Research & Concept Development Conducted Through:

- a. Multiple meetings of the Masters of Engineering Leadership (MEL) / Masters of Health Leadership and Policy (MHLP) Stakeholder Committee of Applied Science:

MEL/MHLP Stakeholder Committee	
Marc Parlange	Dean of Applied Science
Elizabeth Croft	APSC Associate Dean, Education and Professional Development
Carol Jaeger	APSC Associate Dean, Academic
Richard Klukas	Associate Professor, School of Engineering, UBC Okanagan
Suzanne Campbell	Director of School of Nursing
Ron Kellett	Director of School of Architecture and Landscape Architecture
Penelope Gurstein	Director of School of Community and Regional Planning
Andre Ivanov	Department Head of Electrical and Computer Engineering
Peter Englezos	Department Head of Chemical and Biological Engineering
Perry Adebar	Department Head of Civil Engineering
Sheldon Green	Department Head of Mechanical Engineering
Warren Poole	Department Head of Materials Engineering
Judith Lynam	MHLP Director: Seniors Care
Daan Maijer	MEL Director: Advanced Materials Manufacturing
Jon Mikkelsen	MEL Director: Naval Architecture and Marine Engineering
Christopher McKesson	MEL Associate Director: Naval Architecture and Marine Engineering
Mark Martinez	MEL Director: Green Bio-Products
Philippe Kutchen	MEL Director: Dependable Software Systems
Martino Tran	MEL Co-Director: Urban Systems

Thomas Froese	MEL Co-Director: Urban Systems
Susan Baldwin	MEL Co-Director: Integrated Water Management
Gregory Lawrence	MEL Co-Director: Integrated Water Management
Walter Merida	MEL Director: Clean Energy Engineering
Vladan Prodanovic	MEL Associate Director: Clean Energy Engineering
Tamara Etmannski	MEL/MHLP Director: Academic & Platform
Jenny Reilly	APSC Director of Coop and MEL/MHLP Professional Development
Erinrose Handy	APSC Director of Marketing and Communications
Stuart McKenzie	APSC Director of Finance
Leonel Roldan-Flores	APSC Director of Special Projects
Ron Loewen	APSC Director of Capital Projects

- b. Consultations with current students (Appendix 6)
- c. Consultation with Health Authority Leaders in Clinical Education (Appendix 6)
- d. Desktop research of comparable programs nationally and internationally
- e. Analysis of market trends & expressions of interest in further education by clinicians.
- f. Focus group consultations with Educational Institutions Internationally
 - i. (Spring 2015)
- g. Formal Focus group consultations with Clinical Practice Partnering Organizations
 - i. Vancouver Coastal Health
- h. Informal consultations with Clinical Practice Partnering Organizations
 - i. Provincial Health Services Authority
 - ii. Providence Healthcare

2.3.2.2 Formal Consultations on Concept & 'Market' Need

February 22nd, 2016

- Lisa Bower, Clinical Education Lead, Clinical Education Learning & Development, Vancouver Coastal Health
- Sally Breen, Clinical Education Lead, Clinical Education Learning & Development, Vancouver Coastal Health

2.3.2.3 International Consultations

April 2nd 2015

- Chancellor, Bhaba Farid University, India
Interest in onsite certificate program to build capacity for clinical education & to enhance standards of clinical education

June 2014

- Oman Ministry of Health & College(s) of Nursing site visit to UBC
Interest in graduate education in Canada to build capacity to educate nurses beyond (didactic) knowledge of nursing to develop clinical education and clinical competencies of nurses.

2.3.2.4 Validation by External Sector Experts and Key Insights

a Validation Masters of Health Leadership & Policy: Clinical Education February 29, 2016

- Lisa Bower, Clinical Education Lead, Clinical Education Learning & Development, Vancouver Coastal Health
- Sally Breen, Clinical Education Lead, Clinical Education Learning & Development, Vancouver Coastal Health

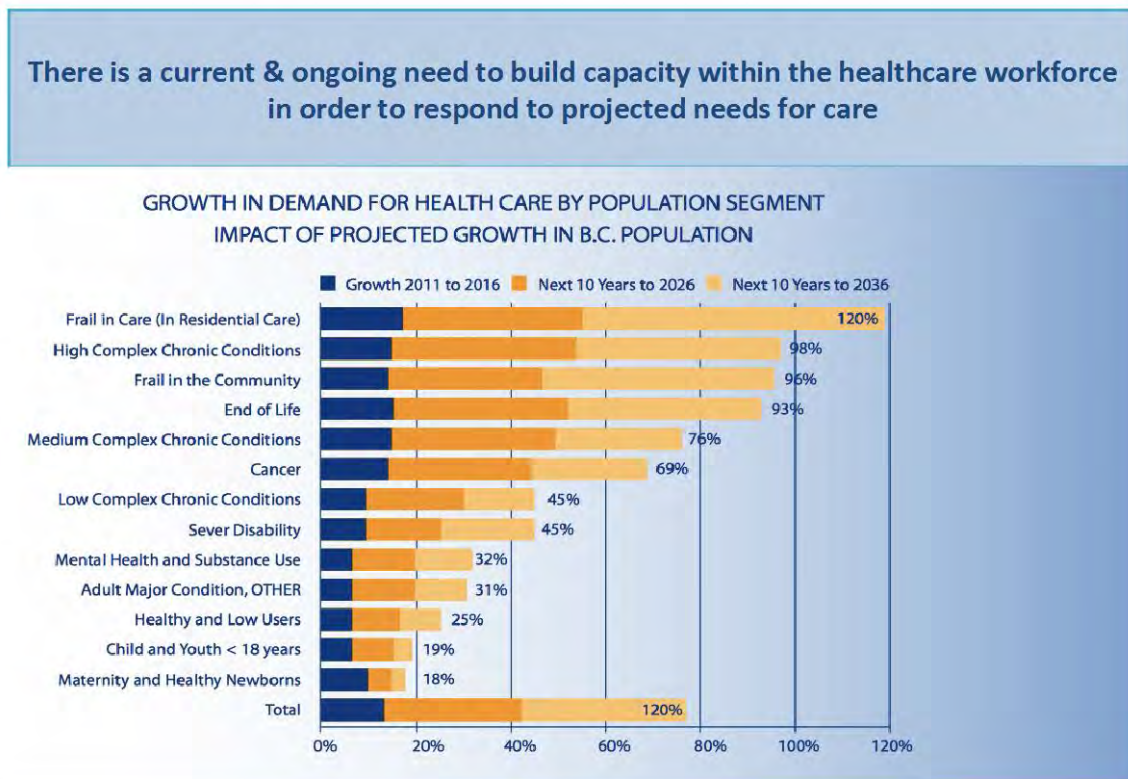
2.4.1 Market Insights

The overview of the core courses and the Platform was very well received and was identified as responding to an urgent need to build the capacity to deliver clinical care. The participants in the market research underscored the value of including courses designed to foster the development of business and management skills. Consistently repeated messages, related to the potential student market and the relevance of the particular focus areas, were heard through all market research activities outlined above.

For example such messages included:

1. The Clinical Education Pillar was identified as highly relevant to stakeholders in the healthcare sector. For example, there is a current and accelerating demand for clinicians in healthcare sector in BC. This program will graduate clinicians with the knowledge and skills to build capacity in clinical education and to manage the associated challenges. (Figure 1)
2. Experienced healthcare professionals in their chosen careers require sector-relevant, cross-disciplinary technical skills.
3. Fostering the graduates' capacity for analysis of policies and trends in practice were viewed as distinct advantages over other graduate programs.
4. The consultations recognized that there is an ongoing need to develop and map clinical skills education within practice as an interdisciplinary enterprise.
5. Healthcare professionals, including those in clinical education leadership roles, require project management, communication and business skills to be effective leaders. The range of concepts in the curriculum will meet the needs of healthcare professionals leading and managing high performance teams and to develop and implement strategic clinical education plans within specific practice settings and across health authorities.
6. No North American schools offer this combination of skills in a technical master's program.
7. Nursing has a strong presence as leaders in clinical education.

Figure 1 The Demand for Clinical Care is projected to increase by 20% in the next decade. Clinical Educators are essential to building clinical capacity to provide care.

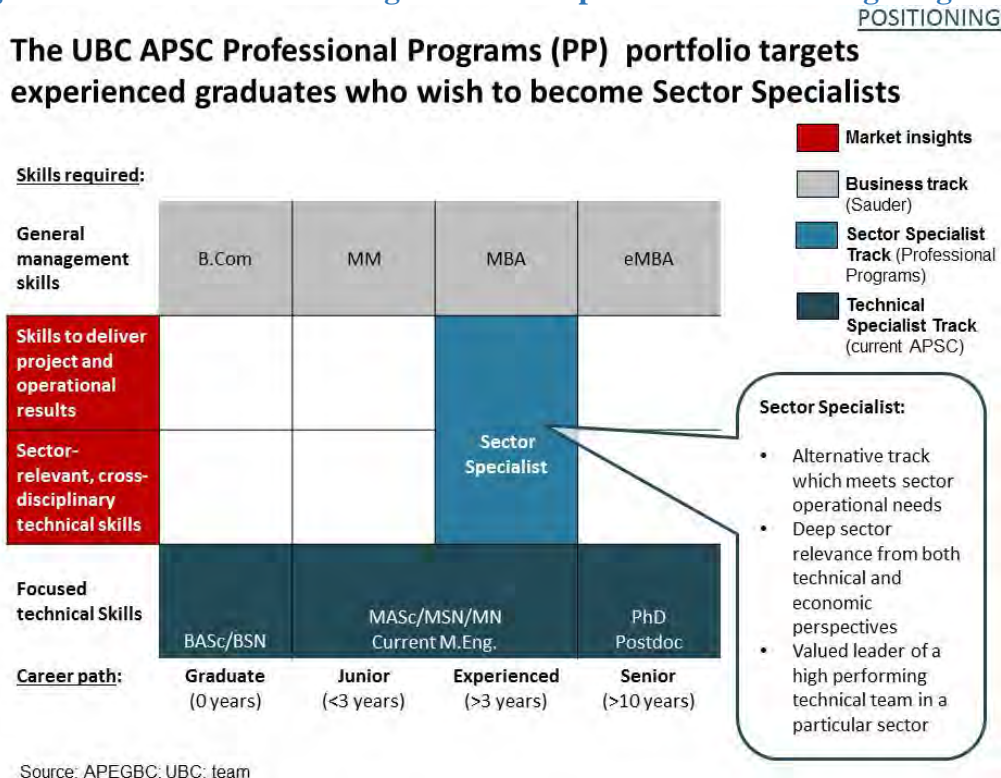


Source Setting Priorities BC Health Feb 2014

2.5 Program Overview

2.5.1 Mission

The Program strives to provide students with a comprehensive and innovative education that will enable them to advance their career in a path that is different from the traditional APSC course-based master's (MSN or Masters of Nursing: Nurse Practitioner (MN:NP) or the Master of Business Administration (MBA). The program is structured to provide a combination of advanced technical skills, integrated with professional skills, which will enable graduates to practice these skills and advance their career trajectory in their chosen sector.

Figure 2 Placement of New Program Sector Specialist with Existing Programs

2.5.2. Objectives

This graduate program is designed to prepare health professionals to design, deliver and evaluate clinical education for practicing and pre-licensure clinicians and to apply knowledge of management and leadership practices within clinical practice and education settings. Through the program students will acquire the knowledge and skills that will enable them to complement their clinical practice expertise with philosophical positions on teaching and learning and the ability to apply a number of pedagogical approaches to the design, delivery and evaluation of a diverse array of learning experiences to meet basic to complex learning goals related to clinical education. The graduates will acquire knowledge of business and management practices enabling them to manage and lead interdisciplinary teams and critically appraise policies that shape clinical practice. They will consider education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity.

The program will:

- Equip tomorrow's clinical education professionals with the critical thinking and practical skills necessary to make important contributions to the health care sector in BC and globally;
- Capitalize on Vancouver's diverse healthcare environment and UBC's current stakeholder connections by offering an attractive hands-on education that allows students to get valuable work experience; and allows BC's health care sector to benefit from the minds of UBC's top graduate-level students;
- Link the concerns of extra-university partners by offering students a project-based curriculum that explores cutting edge concepts in collaboration with healthcare professionals in the Vancouver region;

- Emerge as the leading institution for the continuing education of current leaders in the healthcare clinical education and for the training of tomorrow's leaders;
- Graduate highly skilled professionals who can fill the jobs gap currently existing and expected to increase in Canada in the foreseeable future; and
- Continue to develop a high profile faculty with recognized expertise in the theory and practice of clinical education.

2.5.3 Program Learning Outcomes

Graduates of the MHLP in Clinical Education will:

- Critically analyze professional practice standards and regulatory policies to determine their implications for clinical practice education;
- Analyze practice trends and issues to identify gaps in knowledge and skills of practitioners and develop an educational strategy for addressing them.
- Explicate theories informing clinical practice(s);
- Design learning experiences that enable students to analyze clinical practice situations and develop clinical judgement in increasingly complex clinical practice environments;
- Design learning experiences to achieve simple to complex learning outcomes (*Knowledge, analysis, application, skills, concepts and program goals core to clinical practice.*);
- Effectively use technologies and simulation as learning strategies;
- Employ a variety of approaches to assessment, testing and evaluation and evaluate their appropriateness for assessing learners' needs and for evaluating different types of learning outcomes;
- Understand professional regulatory standards and approval processes for clinical practice and professional education and know how standards may be met through the design & delivery of curricula & learning experiences;
- Consider clinical education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity; and
- Manage and lead clinical education teams within diverse institutions.

2.6. Contributions to the UBC Mandate and Strategic Plan

The University of British Columbia is 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. Since 1915, UBC's West Coast spirit has embraced innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning.

In *Place and Promise: The UBC Plan*, our vision statement is: "As one of the world's leading universities, The University of British Columbia 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." <http://strategicplan.ubc.ca/the-plan/>

The program will act as one route to the fulfillment of this promise. With the involvement of

faculty from all areas in APSC and partner Faculties; the development of new laboratory facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, sponsored research topics, and internship job placements, the program will offer an exceptional learning environment for students and for faculty undertaking research. In addition, the program will attract students from around the world to study in Vancouver's diverse environment and graduate students who will, in turn, be in demand across the globe.

When we speak of globalization today, it is a synthesis of exploration, learning, and the global exchange of resources and knowledge—not unlike the university itself. Accordingly, the program addresses many of the goals outlined in *The UBC Plan*:

2.6.1. Student Learning

- The University provides the opportunity for transformative student learning through outstanding teaching and research, enriched educational experiences, and rewarding campus life.

The program will offer a comprehensive curriculum that draws upon the combined expertise of faculty in the School of Nursing and a wide range of Schools and Departments within all areas of APSC and relevant partner Faculties, and of sector professionals. The program will synthesize theory and practice through a challenging project-based learning experience that will equip students with the skills and experience needed to excel in the world's most important and fast-growing sectors. The number and variety of courses available to students will be purposely limited, as will student enrolment, to ensure a robust and streamlined learning experience that is centered on the program objectives. As well, strong stakeholder support and existing relationships between UBC APSC in general and the School of Nursing in particular and research and practice partners in the private, public and non-profit sectors promises students both a rich educational experience and employment opportunities after graduation.

2.6.2. Innovation Excellence

- The University creates and advances knowledge and understanding, and improves the quality of life through the discovery, dissemination, and application of research within and across disciplines.

As a leading research and educational facility, UBC is expected to be a world leader, and *the* Canadian leader in the areas of the program, as we invest time and resources to create, sustain and grow for the future. By expanding UBC's current scholarship in the areas of this program, UBC will not only be a leader in the exchange of knowledge in these areas; it will also, by contributing to the involved sectors, be a central part of the means by which people and knowledge are mobilized. Clinical Education is an applied area of practice that draws upon knowledge generated a variety of disciplinary perspectives. UBC leads in the development of such foundational knowledge. This program will provide an avenue for the uptake of such knowledge.

2.6.3. Community Engagement

- The University serves and engages society to enhance economic, social, and cultural well-being.

Engaging with public and private sector practice sites with regard to the needs of their sector is one of the key components of the program. With a curriculum grounded in collaborative community projects, a reciprocal and experiential learning environment will be created between students and local stakeholders. There is significant interest in identifying ways to effectively respond to the emerging demographic trends without compromising quality. The community is an essential partner in this undertaking.

2.6.4. International Engagement

- The University creates rich opportunities for international engagement for students, faculty, staff, and alumni, and collaborates and communicates globally.

The program will graduate students who will be in demand in Canada and across the globe. It will graduate the trained professionals needed to ensure the self-sufficiency of Canada's sector-specific professionals, and the global influence of Canada itself. Clinical Education is provided in publicly funded healthcare organizations as well as in public and private educational settings. To educate clinicians who are skillful in practice, and have the requisite judgment, capacity for clinical decision making and knowledge of regulatory policies and practice standards in the public sphere and having the capacity to analyze the impact of emerging technologies, trends in the organization of healthcare delivery, and trends in clinical services provision is essential to ensuring an effective system. Highly qualified professionals, are key to securing Canada's commitment to improving the health of Canadians and ensuring access to quality healthcare for its citizens. Building capacity within the healthcare sector is essential to achieving this goal in Canada and in other jurisdictions throughout the world. By offering the program, UBC will become an invaluable player in both national and international development.

2.6.5. Sustainability

- The University explores and exemplifies all aspects of economic, environmental, and social sustainability.

The program will play a role with the rest of the UBC community to meet society's needs without compromising those of future generations. Through the platform courses that will have a focus on leadership and sustainability, to the activities and services provided both inside and outside of the classroom, the program is designed to be accountable and transparent in the use of available resources. Social sustainability, ethics and policy are core concepts explored in programs of scholarship in Nursing. Nursing faculty are members of the APSC sustainability working group. Nursing's contributions to this interdisciplinary dialogue has enhanced awareness of the social impacts, both positive and negative, of technical innovations (i.e. industry, mining, etc.) on individuals and communities' health while also introducing ways social initiatives may mitigate negative impacts.

2.7 Support for the New Program

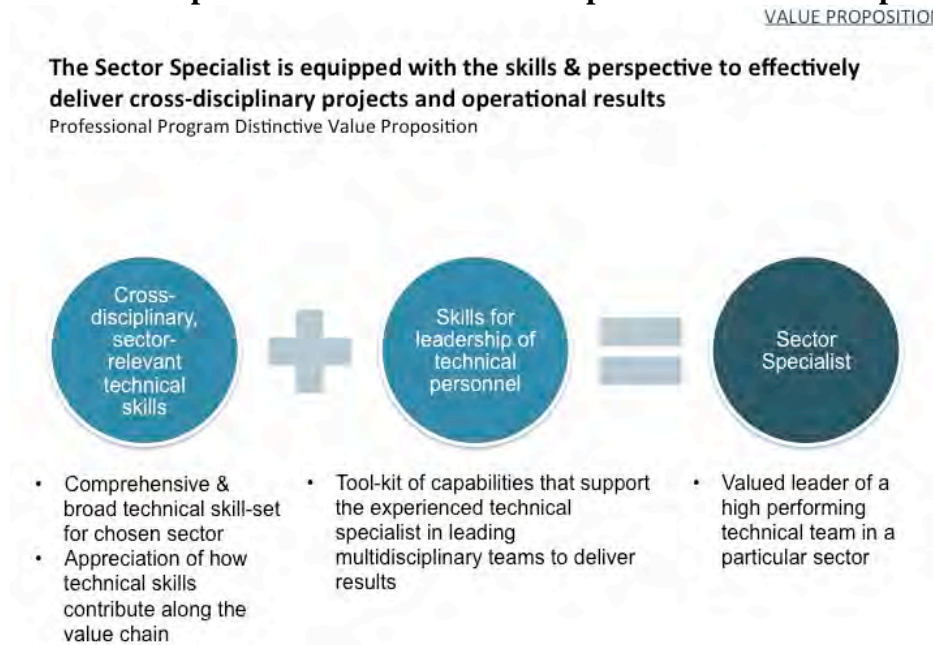
The University supports the formation of new professional master's programs having goals in alignment with that of the institution. Support and resources are available in a variety of forms including assistance with market research, budgeting, and curriculum development. We have and continue to take advantage of all assistance in the creation, development, delivery and evaluation of the program. As part of the Flexible Learning Initiative, targeted growth of professional master's programs is one of UBC's four priorities over the next five years. Continued support for the Flexible Learning Initiative has been confirmed by the UBC President.

APSC has identified its professional masters programs as having the potential to benefit greatly from not only revitalization, but also expansion. This initiative has been led by the Dean's office and has received consistent support from the Provost's Office through the Flexible Learning Initiative. We are building upon the success of the first suite of offerings in proposing this new program.

2.7.1. Opportunity Identification

Given the unique structure of the faculty, which is home to not only engineering programs, but also the School of Nursing, the School of Architecture and Landscape Architecture and the School of Community and Regional Planning, the potential existed to create a suite of interdisciplinary masters degrees that were aligned with stakeholders in a way that a program housed in a single department or school could not. In order to establish the market for such opportunities, and to establish potential interdisciplinary themes to pursue, the following activities were undertaken:

1. Competitor scans;
2. Alumni tracking;
3. Ongoing dialogue with stakeholders to identify skills gaps;
4. Targeted market research / focus groups;
5. Dialogue with faculty to shape opportunities and program champions;
6. Initial feasibility assessment;
7. Distillation of program concept(s) including clear objectives in launch; and
8. Straw man concept for new professional program, with clear student target.

Figure 3 Relationship of Technical and Leadership Skills for a Sector Specialist

2.7.2. Program Development

Upon successful conclusion of the opportunity identification phase, program development initiated via the steps outlined below, with this document representing the basis of the material required for step 9. A key element that emerged from the opportunity identification phase was a program structure that featured a largely common platform, comprising approximately 40% of the program, which would be the foundation for all new programs. The remaining 60% of the course content is then comprised of a set of courses drawn from across the faculty that provide sector-specific technical content. The technical material is referred to as a Specialization Pillar because this structure was identified quite early on in the development process, it has been referred to internally as a 'Platform and Specialization Pillar' model from both the curriculum development and delivery perspectives. (Note that for the final MHLP in Seniors Care program, the final distribution was 30% common platform and 70% sector-specific technical content.)

1. Appointment of program Champion (Judith Lynam)
2. Discussions with advisory committee
3. Refinement of proposition, program design and pricing
4. Definition of operating model / formation of any partnerships
5. Financial modelling
6. Funding application
7. Planning for course (re)design (CTLT)
8. Development of project plan
9. Presentation to Faculty council, Senate, Board, Ministry – and plan refinement as needed
10. Full program design in place
11. Approval from Senate and Ministry

2.7.3. Implementation

In parallel with the approval process, implementation and launch of the new professional programs will require a significant effort well in advance of the commencement of the programs for the first cohort, which is anticipated for January 2017. Key activities are summarized here:

1. Development of course materials and flexible learning (FL) delivery / internship modules
2. Development and launch of multi-touch marketing efforts (ideally at least 1 year in advance)
3. Set up in central systems (Enrolment Services, UBC IT)
4. Evaluation of applications (ideally application deadline 7 months in advance) and submission of accepted applications to Department and APSC Dean's Office for approval
5. Program ready to launch with inaugural group of students

2.7.4. Program Management

Due to the intensive nature of the proposed programs and the expected audience, which would be primarily mid-career professionals, this program will require dedicated resources within the Faculty to maintain high-quality, responsive service for administrative details surrounding the delivery of the program (e.g. registration issues, scheduling details, facilitation of workshop activities, placements, coordination of interdisciplinary capstone projects, etc.). Additionally, it is anticipated that there be support for maintaining continuous program improvement, sufficient marketing efforts, ongoing development of community partners and stakeholder participants, and so on. The budget for this program includes provisioning for the necessary staff, to be located in the Faculty, to ensure the ongoing support for the activities itemized below, which are regarded as necessary to deliver and maintain a program of the highest caliber:

1. Continuous feedback loop to improve delivery and learning outcomes
2. Refreshment of marketing materials, with relationships / channels fostered ongoing exploration / implementation of any content repurposing opportunities
3. Tracking of student success rates
4. Financial / operational management
5. Ongoing evolution of program to achieve learning, access, reputational and financial objectives

2.8. Relationship to Established Programs

2.8.1. Related Programs at UBC or other Canadian Post-Secondary Institutions

A selection of courses offered through existing graduate programs will be used for the new program and one new course will be created. There are currently no universities in British Columbia or in Canada that offer accredited *graduate* programs with the proposed Platform and Pillar structure. Some programs offer specialized MSN degrees with a focus on nursing leadership but no programs include the dual focus on clinical and healthcare leadership and management. The following table lists some universities within Canada with related nursing degrees.

2.8.1.1 Graduate Education in Nursing: In BC, graduate programs in Nursing are similar to our own MSN degree which emphasizes theory and research as they are applied in different contexts. The MSN degree is prerequisite to PhD education in nursing. A number of Universities in BC offer an MSN degree or its equivalent.

The UBC School of Nursing, like many of its counterparts in North America, offers the **MN – Nurse Practitioner** degree. The MN program, is a professional pre-licensure clinical graduate program for baccalaureate prepared nurses. It is designed to provide the educational requirements to be credentialed as a Nurse Practitioner. This graduate degree is offered at 3 universities in BC including UBC. There is limited overlap between the required courses for the MSN & MN-NP degrees and the proposed degree.

There is currently one professional master's degree - the MHLP that follows the professional programs structure for this proposed program but it has a focus on Seniors Care. Thus, while the students in the proposed program and the current **MHLP in Seniors Care** would share the same platform of business and management courses, the technical focus of the pillar is distinctly different.

2.8.1.2 Graduate Education in Business & Health: On the 'business side' the Sauder School of Business offers the Executive MBA and has partnered with the School of Population and Public Health to offer the Master of Health Administration degree. These degrees focus principally on the business of health administration. They do not have a substantive focus on care of a particular population and they do not consider clinical education. In conceptualizing this program we have sought to ensure that students will acquire knowledge related to analysis of trends and practices in health care to enable the graduates to design and implement clinical education programs or curricula within practice settings. As individuals in leadership roles they will be called upon to contribute to the development of strategic plans for clinical education and make 'business' decisions related to how staff or other resources may be allocated, budgets managed or policies articulated.

2.8.1.3 Graduate Degrees in Education: UBC & Simon Fraser University (SFU) offer graduate degrees in education, curriculum & pedagogy and health education. The latter has a particular focus on educational strategies for fostering health promotion within the population. None of these programs include a focus on the uniqueness of clinical education for health professionals and none of these programs include a focus on the development of business and management skills.

2.8.1.4 Graduate Degrees in Clinical Education: Internationally, particularly in the UK a number of graduate certificates, diplomas and in some cases Master's degrees, in clinical education are offered. However, none of these include analysis of market demand and projections nor do they include business or management skills.

Table 3. Comparison of Programs

BC Universities	Department	Program	Comments
UBC	Education	Master's in Education Health Education	No clinical component No business component
	Education	Master's in Education Educational Leadership	No clinical education focus

			No business component
SFU	Education	Master's in Health Education –health promotion	No clinical focus No business component
Canadian Universities	Department	Program	Comments
Toronto	Nursing Faculty of Education	MSN Med	No business component No clinical focus
Saskatchewan	Nursing Education	MSN	No business component
McGill	Nursing Faculty of Education	MSN Med	No business component No clinical focus
International	Department	Program	Comments
Kings College London, UK	Clinical Education	Certificate Diploma MA – Clinical Education	No business component

This program includes courses specifically developed to provide students with knowledge related to clinical education. In addition students will take courses that will enable the graduates to develop the capacity to analyze the impact of emerging technologies, trends in the organization of healthcare delivery, and trends in clinical services provision in order to design, deliver and evaluate curricula and educational programs. The courses that focus on clinical education, are designed to ensure graduates have the capacity to educate clinicians who are skillful in practice, and who have the requisite interpersonal skills, judgment and capacity for clinical decision making to provide optimum care and meet clinical practice standards.

Many of the advanced topics that will be covered under the program are already available through programs in the involved departments and schools of APSC at UBC, but the program will synthesize this material and offer a more interdisciplinary approach.

2.8.3. Level of Support and Recognition from other Post-Secondary Institutions

As a new program, support and recognition from other post-secondary institutions is limited. However, it is anticipated that participation from faculty members outside of UBC delivering content in the program will promote further support from institutions that offer similar programs both nationally and internationally. Given UBC's history of expertise in Nursing Leadership, Policy and Senior's Care and the fact that UBC's engineering programs have been ranked second in the nation and among the top 50 worldwide (*Times Higher Education*), it is expected that

other post-secondary institutions both in Canada and abroad will recognize and support this program.

2.9. Demand for Program

The need for health professionals with technical and leadership professional skills is growing rapidly, and Canada currently has neither the trained personnel required to meet the needs, nor the means of training them. There is therefore a need to build capacity and the proposed degree will graduate professionals with the knowledge and skills to achieve this goal. There are currently *no* other Canadian institutions that offer sector-focused (rather than research-oriented) training at the graduate level with the proposed Platform and Specialization pillar structure.

The demand for this program comes from multiple sides. British Columbia and Canada need the proposed program for the success of the provincial and federal Specialization Pillar Sectors to stay competitive with international markets. Given UBC's location, the research of current faculty, and the recent achievements of UBC undergraduate students in the Specialization Pillar area, it is appropriate that UBC be the institution to implement a graduate-level program that is lacking in Canada and now more important than ever.

This program is designed to prepare professionals to lead, design & deliver comprehensive clinical education for professionals in practice and those enrolled in pre-licensure educational programs. The goal of the program is to provide learning experiences that enable graduates to complement their clinical expertise with substantive knowledge related to approaches to, and best practices in, clinical education with knowledge of business operations. The program builds upon a number of assumptions that include:

- The UBC School of Nursing is well positioned to develop and offer this program and lead initiatives in Clinical Education because of the knowledge and expertise that is foundational to the design and delivery of nursing education as a practice discipline.
- The proposed program builds upon research strengths within the Faculty (i.e. existing programs of research in clinical education, appropriate use of technologies and simulation to enhance clinical skills acquisition and clinical decision making; and builds synergies that align with UBC priorities (i.e. excellence in socially relevant research & practice).
- Our consultations with sector experts has shown strong support for the proposed program & indicate that graduates will bring important and needed knowledge and skills to the healthcare sector.
- The program fills a gap in practice and will produce graduates who are able to fill a significant identified need for clinicians to engage in the provision of care to foster the health of the population. The program content will ensure that graduates are well positioned to design & deliver educational programs to build clinical capacity.

2.10 Enrolment, Tuition, Scholarships, Post-graduation Opportunities

2.10.1. Enrolment Predictions and Capacity

To maintain a vibrant learning environment and admit the best and brightest applicants, the cohort size will be purposely limited. The minimum initial cohort will be 20 students increasing

to 41 by 2020.

2.10.2. Tuition Rationale

[Removed for purposes of Curriculum.]

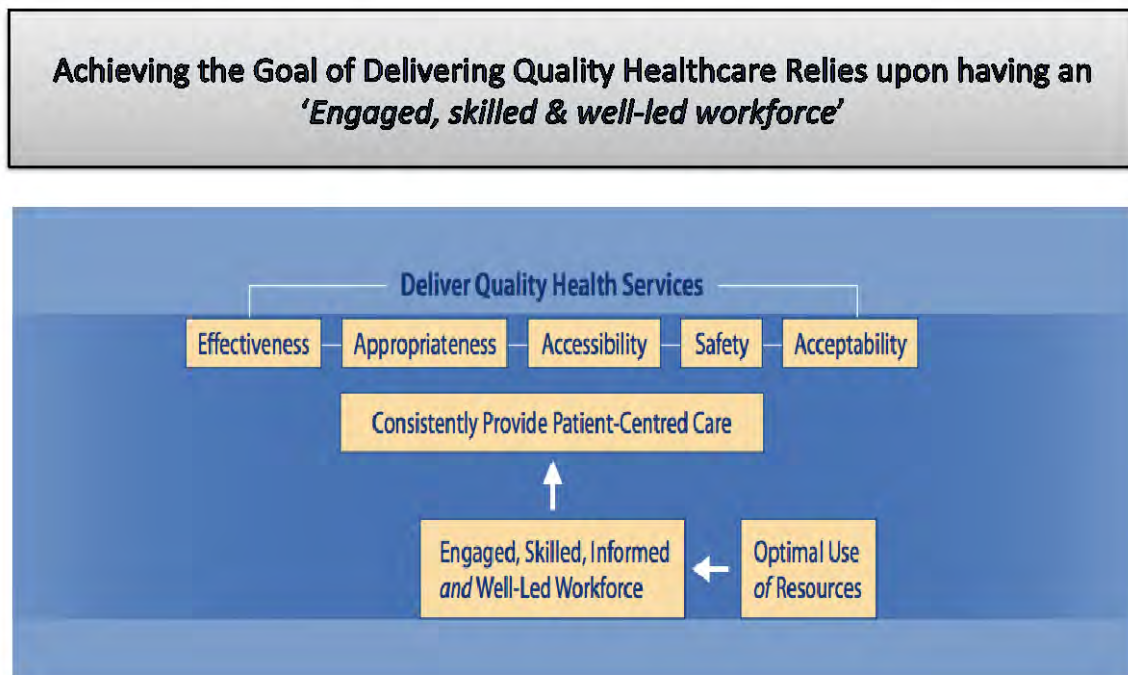
2.10.3. Scholarships

We are concerned about getting the right students for the program and recognize that the tuition assessment may be prohibitive for some outstanding applicants. As a consequence, we intend to go to stakeholders seeking named scholarships. We have set aside 7.5 percent of the tuition revenue for financial need

2.10.4. Potential Sectors of Employment Post-graduation

Graduates of the program will have developed those skills and practices that stakeholders value most highly in experienced health professionals. They will be creative and visionary to see the potential to use the knowledge and training from the program effectively in their employment choices. Government and are hungry for experts to develop new processes and systems to explore and implement positive changes in their chosen area. Graduates can expect to find careers locally, nationally, and internationally.

Figure 5 The British Columbia Ministry of Health has developed a multipronged strategy for achieving the goal of delivering quality healthcare. As noted below, the strategy relies upon having an ‘engaged, skilled and well led workforce’.



Source: setting priorities BC health, 2014

There is a current and growing need for expertise in this field of practice for services and leadership in both the public and private sectors. Through the course and field work experiences provided in this program students will gain knowledge of the social organization of service delivery (policies, funding arrangements and options etc. in public, private and non-profit sectors) and insight how to design and deliver an organization’s educational strategy to in order to build capacity within different clinical groups so that the clinical resources are most effectively deployed to enhance health outcomes.

Figure 6 Healthcare & the BC Jobs Plan

Figure 7 Canadian Healthcare Workers by Area

Canada invests substantial resources in the healthcare sector in order to foster the health of Canadians

- In Canada, the Health Care industry is the 2nd largest employer, employing 9.7% of all workers.
- In BC, 261,300 people work in the health care and social assistance industry and the industry is expected to grow.
- The majority of healthcare engagement requires skilled clinicians.



2.10.5. Opportunities for Further Study

The professional master's degree at UBC is generally not recommended for students who wish to continue on to a PhD, and the proposed program will conform to this. As such, it is anticipated that most or all of the graduating students will go on to or return to work in the chosen sector. It is possible, however, that a small number of students will continue to PhD-level study at UBC or elsewhere.

3. Program Description and Specifications

3.1. Admission Requirements

Minimum admission criteria for the program will meet those of a graduate-level master's program currently in place at UBC. Applicants must hold the academic equivalent of a four-year bachelor's degree from UBC and the degree should be in a relevant discipline or equivalent. For international applicants, the English requirement should conform to a minimum IELTS score of 6.5 with no band lower than 6.0 (or TOEFL iBT score of 80). Applicants who have not fulfilled these requirements, but who have several years of relevant technical and professional work experience in English to offset such deficiencies, may be granted admission on the recommendation of the Program Admissions Committee.

In addition to the above requirements, students must provide letters of reference that speak to their experience and that recognize clinical proficiency in a particular clinical practice context. Students with an undergraduate credential in clinically focused professions such as Nursing, Psychiatric Nursing, a minimum of three years of relevant experience with recognized expertise in an area of clinical practice, and who have clear professional goals related to building clinical capacity through education to improve health outcomes will be encouraged to apply.

3.2. Program & Specialization Pillar Requirements

The program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform to provide the professional skills required for an experienced graduate to be an effective technical manager and 18 credits dedicated to the Specialization Pillar in advanced (technical) courses related to Clinical Education. The program will be delivered as an intensive one-year program and includes 1.5 credits of electives in the business platform. It is anticipated that this will be favorable to post-professional students already in the workplace.

The students will move through the program as a cohort, to build a community of learners, to challenge assumptions and to support each other's achievement of the program goals. We will adopt a 'hybrid' – flexible delivery model. The learning experiences will include face to face & online learning elements and scheduling will be refined with input from sector experts and the target population of students. We anticipate that there will be intensive sessions in summer term; weekly classes in particular terms & in addition to fieldwork experiences there will be a practicum option available. In keeping with the University's vision for the professional degree programs, in the longer term it is possible that some of the courses, or course components, may be offered as 'continuing education courses' (i.e. curriculum design, clinical education skills). Administrative policies have been established to guide decisions and practices related to progressions.

Structurally, the MHLP in Clinical Education is one of a number of programs being proposed by Applied Science. As articulated earlier in this proposal this program includes a shared a 'platform' of courses that we anticipate will also be taken by other Specialization Pillars leading to separate degrees including the Master of Engineering Leadership at the UBC Vancouver campus and one at the UBC Okanagan campus. These programs are distinct and each will be reviewed separately, but as all APSC Professional Programs are conceptualized as sharing a common goal of graduating students with enhanced disciplinary knowledge and business skills the proposed array of programs is listed in Appendix 5 for information only.

Figure 8 Learning Objectives Relevant to the Three Levels of the Program

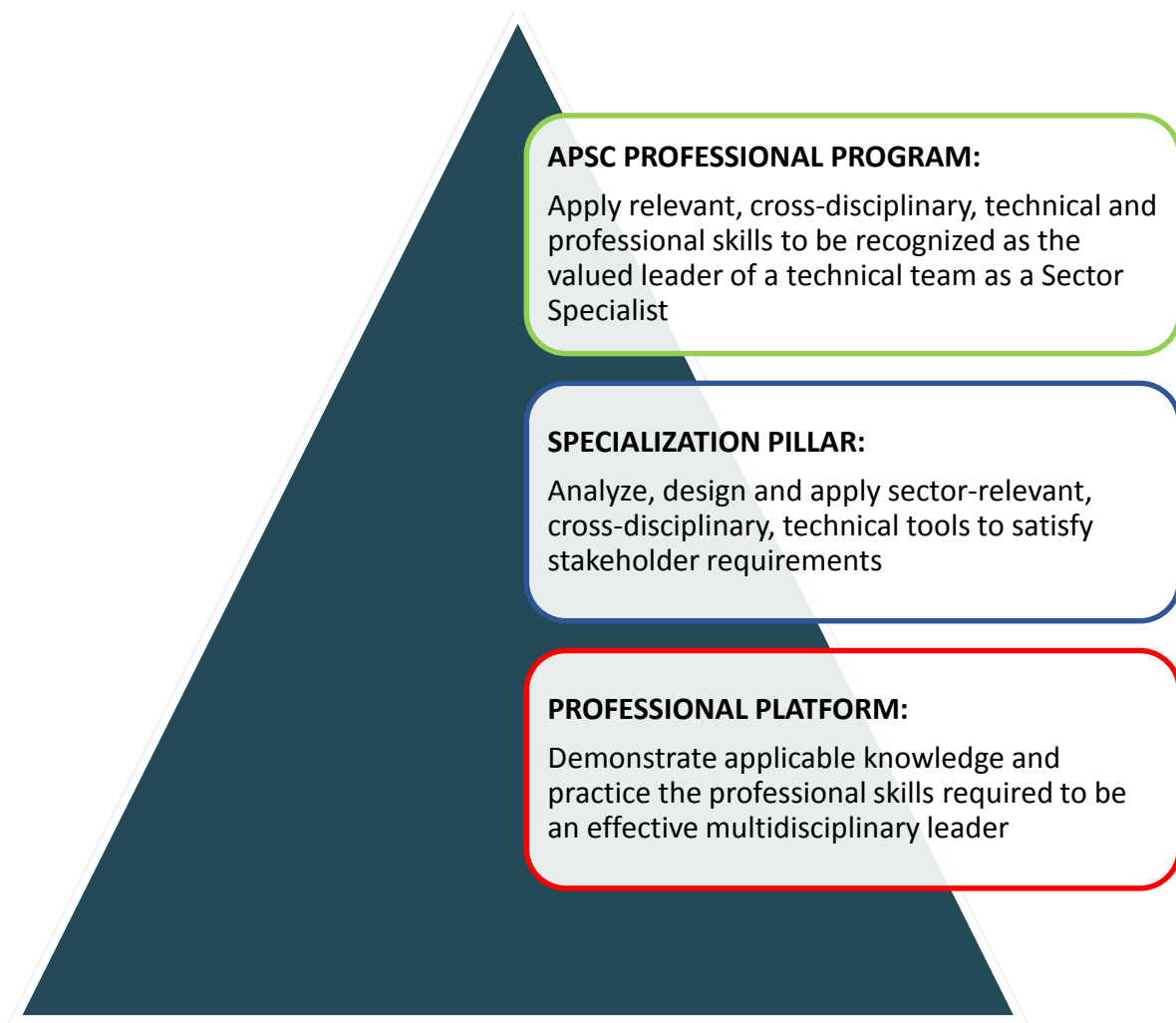
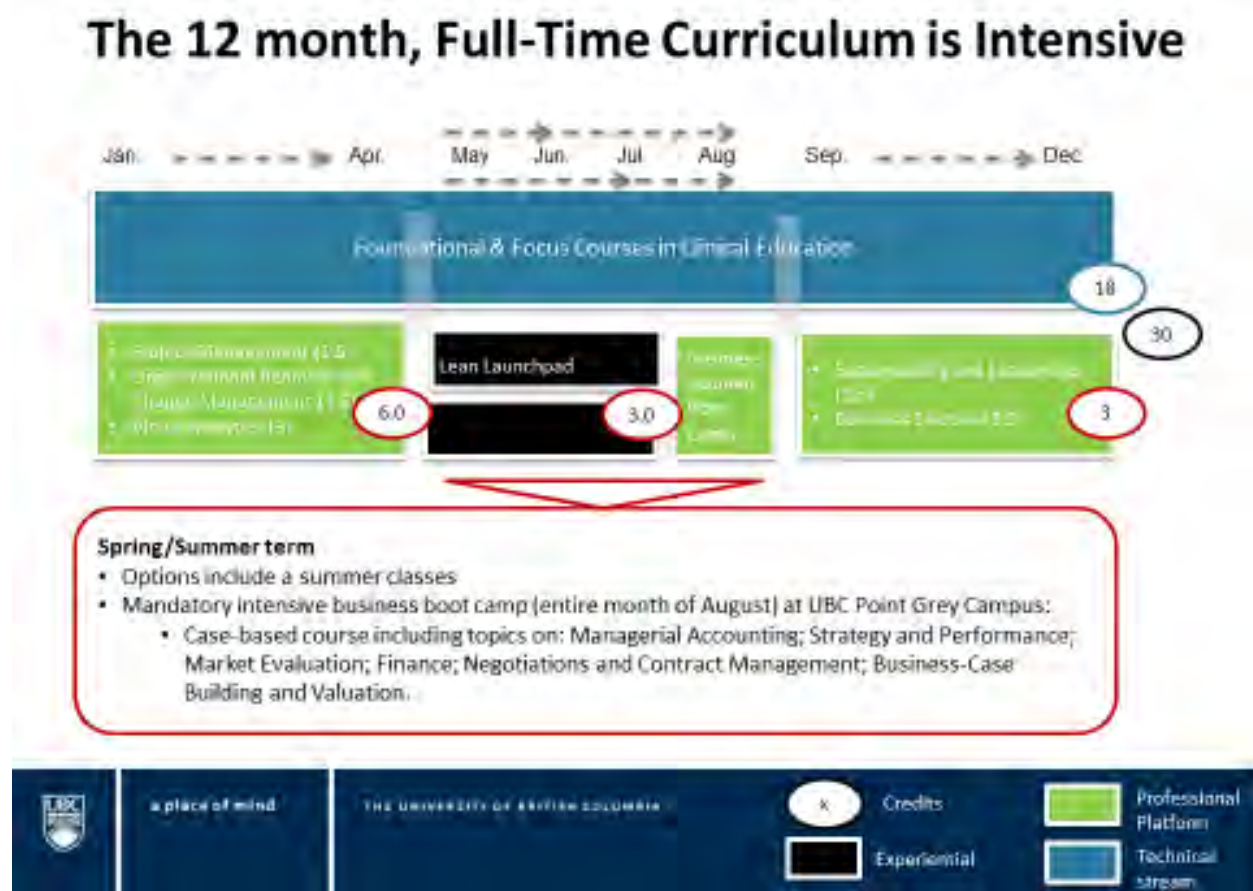


Figure 9 Program Overview of 3 Components

3.3. Platform Structure for the MHLP in Clinical Education

3.3.1. Leadership & Sustainability (4.5 credits total)

APPP 501 (1.5) Project Management and Leadership

APPP 502 (1.5) Sustainability and Leadership

APPP 503 (1.5) Organizational Leadership

Learning Outcomes

1. Lead multi-disciplinary teams to effectively deliver sustainable projects
2. Articulate ideas, progress and outcomes through oral and written communications
3. Plan & deliver multidisciplinary projects
4. Identify and apply sustainability concepts to influence the triple bottom-line
5. Apply leadership principles to organizational and social change

Content

1. Project management
2. Organizational behaviour and structure
3. Sustainability, ethics and policy
4. Personal and professional leadership effectiveness & communications

5. Application of concepts to trans- disciplinary challenges in organizational and social change
6. Fully integrated into technical streams through sector-relevant projects

3.3.2. Business Foundations (3 credits)

APPP 504 (3) Business Acumen for Technical Leaders

Learning Outcomes

1. Gain broad knowledge of the structure and mechanics of business.
2. How to use data for decision-making
3. Articulate ideas, progress and outcomes through oral and written communication
4. Practical level of understanding in specific aspects of managerial accounting, strategy and performance, market evaluation, operations management, negotiations and contract management and business-case building and valuation

Content

1. Managerial accounting
2. Strategy and performance
3. Market evaluation
4. Operations management
5. Negotiations and contract management
6. Business-case building and evaluation
7. Communication skills

3.3.3. Sauder Electives (1.5 credits total)

Learning Outcomes

1. Gain exposure to non-technical issues and skills that impacts business and management

Content (examples of Sauder electives, credit values range from 0.7-1.5)

1. Prototyping
2. Disruption
3. Pitching Your Idea
4. Qualitative Models
5. Social Entrepreneurship
6. Innovation and Sustainability
7. Finance
8. Marketing Fundamentals
9. Product Service Management
10. Operations Fundamentals
11. Fundamentals in Entrepreneurship
12. Government and
13. Public Policy and the Environment
14. Corporate Social Responsibility
15. Environmental Economics,
16. Management, and Technology
17. Business Strategy
18. Leadership
19. Two-Party Negotiations

3.3.4. Analytics and Interpretation for Applied Sciences APPP 505 (3 credits)

Learning Outcomes

1. Competently perform sector-relevant, deep analytical tasks
2. Recognize data visualization tools and understand how they were created
3. Demonstrate a conceptual understanding of 'big data' and predictive analytics for applications in practice
4. Apply strategies to build a corporate culture around analytics
5. Recognize potential ethics or privacy issues related to data collection or use

3.3.5. Non-Academic Optional Content

Provide support to candidates who wish to broaden their knowledge

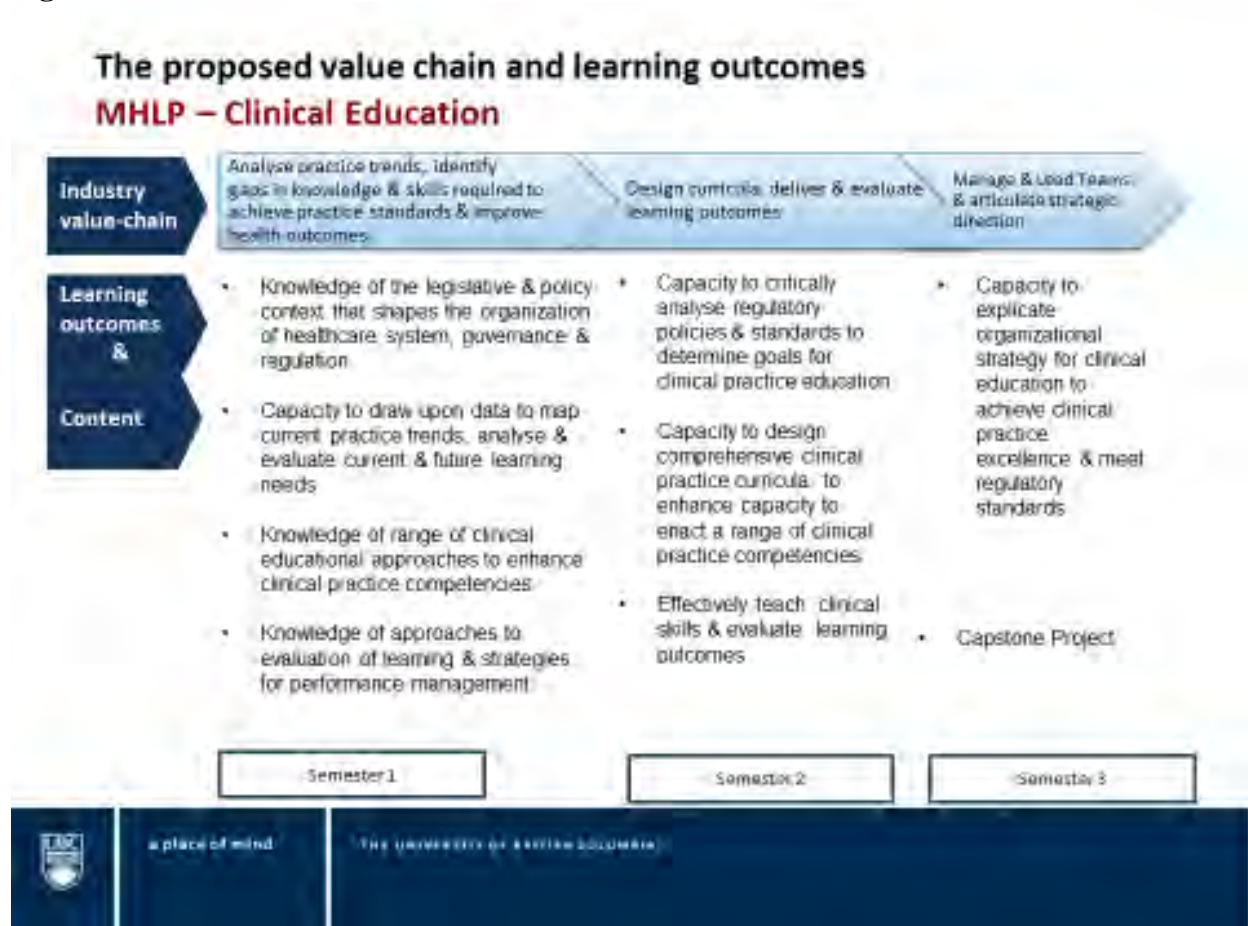
1. Communication Assessment & Support
2. Integrated Sector-specific Experience (Graduate Cooperative Education Program)
3. Employer or Mandatory Sector-specific Project
4. e@UBC Lean Launchpad
5. MITACS Step Business Skills
6. APSC Toastmasters
7. Continuing Studies (PM)
8. APSC Professional Development Workshops
9. English Language Proficiency & Support
10. Data Visualization (VIVA)
11. International Student Support
12. Professional Development Employment Centre (PDEC)

Figure 10 Summary of PDEC Resources



3.4. Overview of Specialization Pillar for Clinical Education

Figure 11 Value Chain



3.4.1 Program Learning Outcomes

Graduates of the MHLP in Clinical Education will:

- Know and be able to critically analyze professional practice standards and regulatory policies to determine their implications for clinical practice education.
- Have the ability to analyze practice trends and issues to identify gaps in knowledge and skills of practitioners and develop an educational strategy for addressing them.
- Have the ability to explicate the theor(ies) informing clinical practice(s) and design learning experiences that enable students to analyze clinical practice situations, develop the knowledge foundational to fostering the development of clinical judgement in increasingly complex clinical practice environments.
- Apply knowledge of the design of learning experiences to achieve simple to complex of learning outcomes. (*Knowledge, analysis, application, skills, concepts and program goals core to clinical practice.*)
- Have knowledge of the effective use of technologies and simulation as learning strategies.
- Have the ability to employ a variety of approaches to assessment, testing and evaluation and have knowledge of their appropriateness for evaluating learners' needs and for evaluating different types of learning outcomes.

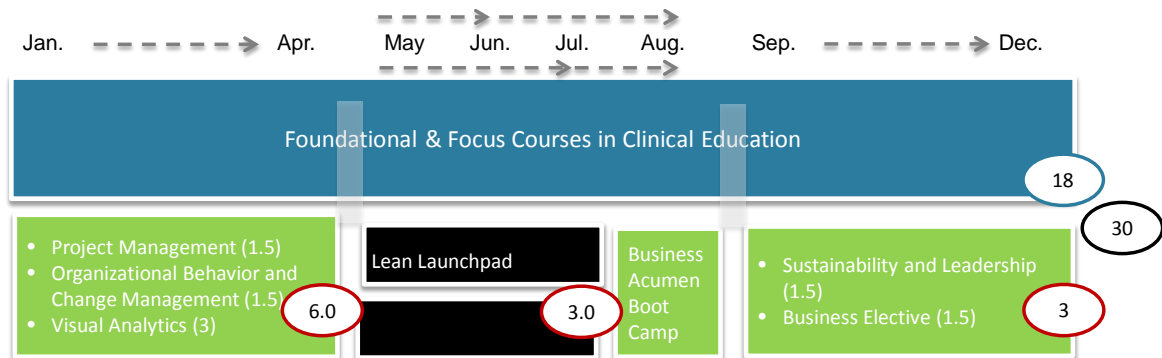
- Have knowledge of professional regulatory standards and approval processes for clinical practice and professional education and know how standards may be met through the design & delivery of curricula & learning experiences.
- Consider clinical education within the context of broader organizational goals and mandates, acquire knowledge of how to analyze learning needs within different types of organizations and devise a plan to build clinical capacity.
- Develop the ability to manage and lead clinical education teams within diverse institutions.

3.4.2 Program Overview

Course Titles & Credit Value

	Credits
Winter Session – Term 2 (January – April)	
NURS 504 Research and Evidence-Based Practice	3
NURS 531 Theoretical Foundations of Clinical Education	3
APPP 505 Analytics & Interpretation for Applied Sciences	3
APPP 501 Project Management and Leadership	1.5
APPP 502 Sustainability and Leadership	1.5
Summer Session – Term 1 (May – June); Term 2 (July – August)	
NURS 586 Specialized Domains of Nursing Practice	3
APPP 503 Organizational Leadership	1.5
APPP 504 Business Acumen for Technical Leaders	3
Winter Session – Term 1 (September – December)	
NURS 541 Clinical Nursing Education	3
NURS 577 Graduate Practicum in Nursing	3
NURS 560 The Politics of Health Policy	3
Electives Sauder	1.5
TOTAL CREDITS	30

There are no free electives.

Figure 12 – Curricular Structure**MASTER OF HEALTH LEADERSHIP AND POLICY in CLINICAL EDUCATION****The 12 month, Full-Time Curriculum is Intensive****Spring/Summer term**

- Options include a summer classes
- Mandatory intensive business boot camp (entire month of August) at UBC Point Grey Campus:
 - Case-based course including topics on: Managerial Accounting; Strategy and Performance; Market Evaluation; Finance; Negotiations and Contract Management; Business-Case Building and Valuation.

3.5. Supervision and Evaluation

Unlike the graduate-level research programs at UBC, a student in the program will not be assigned a single, dedicated supervisor, but will rather be supervised day-to-day in their work by the Specialization Pillar Directors and the APSC Professional Program Office. Coursework is evaluated through essays, papers, mini-projects, homework assignments and presentations. For the practicum experience, supervision and evaluation will be provided by a professor and by sector-specific adjuncts. Expectations of students will be formalized through individual course syllabi.

3.6. Policies on Program Management and Assessment

The program will be administered under APSC. In delivering this new model “high touch” program it is essential that the Dean’s Office, APSC Professional Program Office and Graduate Program Offices responsible for the Specialization Pillars collaborate and cooperate in an intimate fashion. The student should have access to all services and needs from within the same Faculty to ensure timely and comprehensive service of their academic and non-academic activities.

In parallel to internal reviews used to evaluate professional degrees conducted according to the APSC and UBC governance guidelines, the program will be evaluated and developed based on the recommendations of an Advisory Committee. This expert panel of outside professionals and academics will meet once per term. Committee membership will be approved by the Dean of APSC. The members of the Advisory Committee will include leaders and stakeholders from practice settings and from disciplines whose research and practice intersects with Clinical Education.

4. Calendar Statement

Follows in a separate document.

Program Resources 5.1. Program Funding and Budget

The program will be delivered as fiscally sustainable. The budget is sensitive to enrolment numbers and has been calculated for an initial enrolment of 20, expected to increase to an enrolment of 41 by 2020.

[Removed for purposes of Curriculum.]

As this program is unique, and is directed at a sector where there is identified unmet need, impact on enrolment from existing programs or on opportunities for existing students is expected to be small.

5.2 Qualified Faculty

Courses will be taught by a combination of faculty from a number of departments and schools in APSC and also from other faculties at UBC; Visiting Professors, sector-specific adjuncts and guest lecturers will be involved.

5.2.1. Specialization pillar Champions or Directors

Each Specialization Pillar has a 'Champion', or in some cases more than one champion, who was instrumental in establishing the value proposition for the Specialization Pillar and also in the design of the curriculum. It is expected that these individuals will continue to have an instrumental role in the administration and oversight of the Specialization Pillar upon program launch, and may become Program Directors (see Section 5.4). The current Champion is Dr. Judith Lynam.

5.3. Library Resources

The new courses for this program have been reviewed by the library. The Specialization Pillar courses will not require any additional Library support and the Platform courses requiring new resources will be funded by the APSC Dean's Office. (See Appendix 2 & 3 and Appendix 7 Platform Proposal)

5.4. Administration

- **Program Directors**

The Directors for each Specialization Pillar will be appointed by the Dean of APSC. The Director will lead the implementation of the program and oversee its evolution, growth and position within APSC. As well as assuming teaching and research commitments, the program Director will represent the program on university committees. The program Director will also be expected to lead the community outreach component of the program to secure internship opportunities. The Director will take an active role in developing the necessary community and stakeholder linkages to establish a long-term and wide range of internship placements. The Director will become the principal point of contact for community and stakeholder partners. The Director will report to the Head of the lead department or school as appointed by the Dean of APSC.

- **Program Manager**

It is expected that the suite of professional programs will be managed on a day-to-day basis by one or more centrally located program managers. This program manager would assist in: student recruitment, student enquiries, website development and maintenance, applications and admissions, timetabling, classroom scheduling, extra-curricular events and workshops, and addressing registration inquiries or issues. Support for admissions and records will also be provided by the APSC Dean's Office.

5.5. Space Requirements

Dedicated space for APSC Professional Programs has been secured within a new building. We are currently engaged in identifying space for the expanding cohort of students we anticipate for the 2016 W (2) entry.

5.6. Consultations with University Units

Consultation requests were sent to the following (see Appendix 4):

1. Faculty of Applied Science, School of Nursing
2. Faculty of Applied Science, School of Regional & Community Planning
3. Faculty of Arts, School of Social Work

4. Faculty of Forestry
5. Faculty of Land and Food Systems
6. Faculty of Medicine, Department of Occupational Science & Occupational Therapy
7. Faculty of Education
8. UBC Sustainability Initiative
9. Faculty of Commerce
10. Faculty of Science

5.7. Contact Information

Contact Person(s):

University of British Columbia, Faculty of Applied Science, Dean's Office
Elizabeth Croft, Associate Dean, Education & Professional Development
elizabeth.croft@ubc.ca 604-822-6614

6 List of Appendices that follow

[Removed for purposes of Curriculum.]

Appendix 1 Budget Impact Form

Appendix 2 Curriculum [Follows in a separate document.]

Appendix 3 Library Consultations

Appendix 4 Other Consultations

1. Faculty of Science
2. Sauder School of Business
3. Faculty of Medicine – School of Population & Public Health
4. Faculty of Medicine - Centre for Health Education & Scholarship
5. Faculty of Land & Food Systems
6. Others pending

Appendix 5 Overview of Related Proposed Specialization Pillars

No other pillars for MHLP are being proposed at this time I

Appendix 6 Market Research

1. Healthcare Leaders
2. International Consultations

Appendix 7 Platform Proposal



UBC Curriculum Proposal Form Change to Course or Program

Category: 1

Faculty: Applied Science School: Nursing Faculty Approval Date: March 31, 2016 Effective Session (W or S): W Effective Academic Year: 2016	Date: March 20, 2016 Contact Person: Dr. Judith Lynam Phone: 2-7476 Email: judith.lynam@nursing.ubc.ca
Proposed Calendar Entry: Master of Health Leadership and Policy in Clinical Education The Master of Health Leadership and Policy (M.H.L.P.) in Clinical Education (C.E.) is a program within the Faculty of Applied Science. This program is designed to prepare professionals to lead, design, and deliver comprehensive clinical education programs in a range of community and institutional settings in both the public and private sectors. The goal of the program is to provide learning experiences that enable graduates to complement their clinical expertise with both substantive knowledge related to clinical education and knowledge of business operations. This is a 12-month, full-time program for professionals who have relevant industry experience and are wanting to accelerate their career. The Faculty of Applied Science administers the Master of Health Leadership and Policy program. Please visit the <u>MHLP website</u> for further information and contact details.	URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,0,0 Present Calendar Entry: N/A Type of Action: Create New master's program. Rationale: The creation of this program has been driven, in part, by strong interest from the external community (whereby British Columbia will see a high level of activity over the next few decades), in part by a desire to collaborate between the Departments and Schools in the Faculty of Applied Science and in part to raise UBC's profile and to attract students (both within Canada and abroad), and to collaborate internationally.



Admission Requirements

- **Applicants must hold an undergraduate credential in healthcare or related field (Nursing, Nurse Practitioner, Psychiatric Nursing)**
- **Have a minimum of three years of relevant experience and demonstrate, through references and work experience, that they are proficient and have been identified as having leadership potential in clinical practice.**

The minimum admission requirement for students with degrees from recognized institutions within Canada or the United States of America is an average of 76% (UBC-equivalency), calculated from senior-level coursework. An applicant with an average slightly less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework in the prospective area of study.

The minimum admission requirement for applicants with degrees from outside Canada and the United States of America is an overall degree average of 76% (UBC-equivalency).

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
- **CELP (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.

Applicants who do not meet both the academic and English language proficiency 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 Applied Science.

Lists of the required application documents are available on the [program website](#). The Professional Masters office



is responsible for collection and assessment of application documents.

Transfer Credit

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, as an undergraduate, or as an unclassified student) may transfer up to 12 credits or up to 40% of the total number of credits needed for completion of their current program (whichever is more), provided that:

- **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.**

2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).

3. The 12-credit (40%) restriction applies to students in UBC-approved Exchange Agreements established by the UBC Go Global Office.

4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of the Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course



by course basis.

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.

Program Requirements

Degree requires completion of 30 credits. This includes 18 credits of Pillar (Nursing discipline) courses and 10.5 credits of specified courses and 1.5 credits of approved elective courses delivered in partnership with the Faculty of Commerce and Business Administration (also known as the Sauder School of Business). The Pillar contains the relevant technical material. Platform refers to foundational coursework focused on the professional skills required for an experienced graduate to be an effective professional leader. These courses are common across many of the Applied Science Professional Master's programs. Each student's coursework must be approved by the M.H.L.P. in C.E. Graduate Program Office.

Course Requirements for M.H.L.P. in C.E.:

- **NURS 531 (3) Theoretical Foundations of Clinical Education**
- **NURS 504 (3) Research and Evidence-based practice**
- **NURS 541 (3) Clinical Nursing Education**
- **NURS 560 (3) The Politics of Health Policy**
- **NURS 577 (3) Graduate Practicum in Nursing**



- **NURS 586 (3) Specialized Domains of Nursing Practice**
- **APPP 501 (1.5) Project Management and Leadership**
- **APPP 502 (1.5) Sustainability and Leadership**
- **APPP 503 (1.5) Organizational Leadership**
- **APPP 504 (3) Business Acumen for Technical Leaders**
- **APPP 505 (3) Analytics & Interpretation for Applied Sciences**
- **Sauder Elective (1.5) Approved by the Program Office**

Financial Assistance

Financial assistance based on academic merit and financial need will be available.

Students should consult the program website for more information.

Web: www.apscpp.ubc.ca

Contact Information

Graduate Admissions

Professional Masters Studio – Faculty of Applied Science

The University of British Columbia

Gerald McGavin Building

211 - 2386 East Mall

Vancouver BC

Canada V6T 1Z3

Tel: 604.827.4136

Email: apscpp@apsc.ubc.ca

Web: www.apscpp.ubc.ca

Proposed Calendar Entry:

NURS 531 (3) Theoretical Foundations of Clinical Education

Theories of learning and their implications for the design of clinical

Present Calendar Entry: N/A

Type of Action: Create new course

Rationale for Proposed Change: This is conceptualized as content that is core to the new Applied Science Professional Masters



learning experiences.

Program Master of Health Leadership & Policy in Clinical Education. (MHLP in CE) As outlined in the appended syllabus, *this new course will introduce theories of learning and their application to clinical education. Students will gain knowledge of different domains of knowledge relevant to clinical practice and identify strategies to foster learning in different domains. Students will be challenged to critically analyze the implications of the 'theory practice' gaps and develop a repertoire of strategies to apply theory in a range of simple to complex clinical educational contexts. Students will analyze approaches to clinical education in formative education & professional development contexts and be challenged to employ different 'knowledge to action strategies' in order to link theoretical foundations of clinical education with learning approaches.*



18 May 2016

To: Vancouver Senate

From: Senate Curriculum & Admissions Committees

Re: Master of Engineering Leadership in Smart Grid Energy Systems
(approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Applied Science and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Master of Engineering Leadership (M.E.L.) in Smart Grid Energy Systems (S.G.E.S.) degree program and its associated new course code and courses be approved.”*

Respectfully submitted,

Dr. Kenneth Baimbridge, Senate Curriculum Committee
Dr. Robert Sparks, Chair, Senate Admissions Committee

**a place of mind**

THE UNIVERSITY OF BRITISH COLUMBIA

FACULTY OF APPLIED SCIENCE*New program, new course code and courses*

Applied Science>Master of Engineering Leadership in Smart Grid Energy Systems;
SGES (Smart Grid Energy Systems) Course Code; SGES 501 (6) Integration Project;
SGES 502 (3) Renewable and Efficient Electric Power Systems; SGES 503 (2) Topics in
Power and Energy; SGES 531 (3) Smart Grid Communication Systems; SGES 550 (2)
Power Electronic Devices; SGES 592 (2) Architecture for Learning Systems

EXECUTIVE SUMMARY
MASTER OF ENGINEERING LEADERSHIP IN Smart Grid Energy Systems
FACULTY OF APPLIED SCIENCE
UNIVERSITY OF BRITISH COLUMBIA
February 5th, 2016, (Update April 14th, 2016)

Overview

The University of British Columbia is 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. Since 1915, UBC's West Coast spirit has embraced innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning. The program strives to provide students with a comprehensive and innovative education that enables them to build on their past work experience and technical skills, adding leadership and interdisciplinary opportunities for learning and interaction with other students. Consultation with stakeholders has revealed that experienced engineers and early-career professionals in the chosen focus areas require sector-relevant, cross-disciplinary technical skills. They also require project management, communication and business skills to be effective leaders.

The program will focus on developing Highly Qualified Personnel (HQP) for the needs of the rapidly evolving smart grid energy sector. This sector is seeing opportunities in the development of methods and technologies for the integration of emerging generation and storage equipment into today's evolving power grid; communication systems for the ubiquitous sensing and control of all power grid components; and the automation of energy dispatch to meet the needs of users whether they be consumers, utility providers, emergency responders, etc.

UBC has an exceptional interdisciplinary research group which covers all areas of smart grid power systems and communications. The power systems group is working toward the modernization of the electric grid which involves green power generation and storage based on a network of small distributed systems. World class research expertise is in power generation, energy storage, power conversion, transmission, system modelling and dynamic constrained resource allocation.

The communications group has a broad base of expertise which covers information networks, reliable communication, channel characterization and modelling, and diversity techniques. Research applications focus on the integration of communications networks in diverse machine environments including buildings, vehicles and power grids.

Credential

The credential awarded will be the Master of Engineering Leadership (M.E.L.) in Smart Grid Energy Systems (S.G.E.S.). The degree will be a master's degree with a balance between advanced engineering theories, interdisciplinary knowledge and real-world applications. The field of study will be advanced technology and techniques for smart grid energy systems applications.

Location

The Vancouver Campus of UBC is the main location for classroom education and administration. Course instruction and assignments will be achieved through collaborations among UBC, provincial and federal agencies and local private sector stakeholders involved in smart grid energy systems.

Faculty Offering Program

The program will be offered formally, administered and delivered by the Faculty of Applied Science, UBC. Faculty of Commerce and Business Administration (Sauder School of Business) is a partner in the MEL in SGES. The Sauder School of Business is responsible for developing and delivering common courses over all MEL programs related to business management and organization.

Program Start Date

The program will be offered in the 2017/18 academic year, beginning in January.

Program Completion Time

Anticipated time for completion of the program is 1 year of full-time academic study, including any and non-academic activities.

Objectives of the Proposed Program

The intent is to produce engineering Program Managers who possess sufficient technical understanding to direct detailed engineering analyses. Some large corporations and government activities within the field find themselves deploying skilled business personnel to lead engineering teams. Often this results in a 'communications gap' between managers and technical staff thus impairing team effectiveness. The MEL SGES program will create Program Managers who are peers to their engineering team members, but whereas those team members may bring specialist skills in an engineering discipline, the graduate of this program will have specialist skills in program management.

Program Learning Outcomes

Graduates of the program will have expert knowledge in current technologies involving smart grid energy systems. This includes the ability to evaluate operation and performance of energy devices and energy delivery systems using engineering principles and tools especially with respect to renewable generation, communication networks and automated decision control.

This technical knowledge will be combined with best practices and skills in leadership and business administration. All learning will be presented in the context of current markets, policies and regulations. Details of specific learning outcomes are in Section 3.4.

Contribution to UBC's Mandate and Strategic Plan

In Place and Promise: The UBC Plan, our vision statement is: "As one of the world's leading universities, The University of British Columbia 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 program will act as one route to the fulfillment of this promise. With the involvement of faculty from all areas in APSC and the partnership of the Faculty of Commerce and Business Administration; the development of new facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, sponsored project topics, and co-op job placements,

the program will offer an exceptional learning environment for students and faculty. In addition, the program will attract students from around the world to study in Vancouver's diverse environment and graduate students, who will, in turn, be in demand across the globe.

Delivery Methods

The Faculty of Applied Science (APSC) has taken the lead in developing a conceptual framework for new Professional Programs comprising a common "Platform" that provides the professional skills required for an experienced graduate to be an effective professional leader, with "Pillars" of specialization courses in particular sectors relevant to APSC's educational mission and professional communities (the term Platform refers to foundation coursework focused on project management, data analysis, and leadership skills, while the term Pillar is equivalent to specialization.) The program will be delivered as an intensive one-year program. It is anticipated that this program will be favourable to post-professional students already in the workplace. The Platform will be delivered by faculty from APSC and the Sauder School of Business.

The Pillar courses will be delivered collaboratively by faculty from Electrical & Computer Engineering. The MEL in SGES program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform providing the professional skills required for an experienced graduate to be an effective technical manager and 18 credits dedicated to the Pillar in advanced technical courses. Both the Platform and the Pillar have prescribed core courses. For this program there will be 1.5 credits of elective platform courses. Constrained technical electives will be offered to students that have taken significantly similar core pillar courses.

Linking Learning Outcomes and Curriculum Design

The number and variety of courses available to students is purposely limited to ensure a robust and streamlined learning experience that is centered on the program learning outcomes. Each of these outcomes corresponds to at least one of the core courses and summarizes the goal of that course. Work experience is an essential admission requirement.

Program Strengths

The program offers a comprehensive curriculum that is grounded in collaborative projects, embedded in the Platform coursework, and that draws upon the combined expertise of faculty in the participating units. The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. This sector is seeing opportunities in the development of interoperability standards for different smart grid sub-systems; global political and market support of sustainable technologies; emerging economies including remote communities; and fundamental breakthroughs in the energy systems sector resulting in new generation and control capabilities. The curriculum is designed for the student to understand the principles of energy systems, communication systems and automated decision making. A survey of the key topics includes analytical and practical knowledge in the areas of energy generation, storage, conversion and transmission; information transmission, channel characteristics and network topology; and methods for decision automation including neural networks, optimization and learning algorithms. By the end of the program the students have knowledge of the technology and interdependencies among the three core disciplines of the smart grid: energy systems, communication systems and automated decision making. This understanding of the disciplinary interdependencies is integrated through an implementation based project course. There is no other master's program like this in Canada or the United States of America. Specific courses offered in

this program are available from a number of schools in Canada, the United States of America and Europe.

Related Programs at UBC or other Canadian Post-secondary Institutions

A selection of courses offered through existing graduate programs will be used for the new program as well as the creation of new courses. There are currently no universities in British Columbia or in Canada that offer accredited *graduate* programs with the proposed Platform and Pillar structure. Some programs offer specialized M. Eng. Degrees with a focus on power engineering but they are not focused towards smart grid energy systems with business leadership education. The following table lists some universities within Canada with related engineering degrees.

University	Department	Program	Comments
Toronto	Division of Environmental Engineering and Energy Systems	Masters of environmental / energy systems engineering	No business component
Waterloo	Mechanical Engineering	Graduate diploma in green energy	Online, no business component
Queens	Multiple engineering departments	Masters in applied sustainability	No business component

Institutional Contact

University of British Columbia

Faculty of Applied Science

Elizabeth Croft, Associate Dean, Education & Professional Development

604-822-6614 elizabeth.croft@ubc.ca

Appendix to the Executive Summary (for internal UBC purposes only)

Briefly describe the resources that will be required for the program:

Space Requirements

Dedicated space for APSC Professional Programs is being developed within a new building to be completed in 2020. UBC has swing space available which will be used as interim accommodation until new facilities are ready.

Library

The library consultation for the MEL SGES program states that new courses can be supported by the library (Appendix 4). The Platform courses will not require any additional Library support.

Budget and Funding

[Removed for purposes of Curriculum.]

1. Introduction

This proposal represents one of a suite of new professional programs to be offered at the master's level in the Faculty of Applied Science (APSC). The programs were developed in parallel and will be delivered in parallel. That is, there will be a common start date and timeline for cohorts in all of the programs. A key feature of this suite of programs is that they are structured in two parts, which will be referred to as the "Platform" and the discipline-specific "Pillar". The Platform is foundational coursework focused on project management, data analysis, and leadership skills; it is a largely common element accessible to the suite of new APSC professional programs. The Pillar is equivalent to a specialization; it contains technical material specific to Smart Grid Energy Systems. Successful completion of the Platform and a Pillar will result in the granting of one degree. Details of the contents of both the Platform and the Smart Grid Energy Systems Pillar are documented in this proposal.

2. Program Rationale

2.1. Defining the Need for the Program

Members of the University's Flexible Learning Initiative and the APSC Dean's office have formed and worked closely with a Program Advisory Committee consisting of faculty from all areas of APSC. The following program proposal is the result of collaborative planning on the part of this committee.

2.2. Professional Program Mission Statement and Context

*The University of British Columbia, Faculty of Applied Science, wishes to attract students into a **high quality, sector-focused, distinctive & integrated** Applied Science Professional Program that has resources to be delivered sustainably and fiscally meets the University's goals.*

1. **UBC continues to encourage innovative** learning approaches within the fiscal model of cost recovery.
2. **The Flexible Learning Strategy** introduced in 2014 lists the development of new Professional Programs as a priority.

UBC has the opportunity to deliver a distinctive APSC Program in line with the University's Professional Program objectives.

2.3. Applied Science Professional Program Approach

2.3.1. Guiding Principles of the Program Advisory Committee

1. There will be meaningful engagement with stakeholders in market research, development, delivery and career opportunities.

2. Our target market is candidates who might consider either an MBA or M.Eng Management, but would prefer to develop both sector-relevant technical skills and management and leadership skills – our program will be distinctive in the market.
3. We will take advantage of a standardization of core courses to improve quality of offering while reducing costs and complexity.
4. The program will be positioned as a premium alternative to a conventional professional master's program by offering distinctive, high quality, cross-disciplinary technical and non-technical skills to the experienced professional who wants to become a Sector Specialist.
5. Pillars are developed around areas of unique research and teaching strength in APSC, where multiple program "Faculty Champions" are identified, that have strong relevance to our professional community and societal benefit, have strong learner demand, and have strong industry demand for people trained in this sector.
6. Graduate courses offered in the Smart Grid Energy Systems Pillar will be open to all APSC graduate students with the appropriate prerequisites and co-requisites, and similarly to students in other graduate programs, space permitting. This will allow Applied Science to revitalize our graduate program offerings around areas of research and teaching strength, build strong interdisciplinary sector training capacity, and improve our connections to our professional community.

2.3.2. Market Insights

Consistently repeated messages, related to the potential student market and the relevance of the particular focus areas, were heard through all market research activities outlined in Appendix 1 *Market Research for MEL SGES*.

For example:

1. Experienced engineers in their chosen careers require sector-relevant, cross-disciplinary technical skills;
2. Engineers require project management, communication and business skills to be effective leaders;
3. Few, if any, schools in Canada and the United States of America offer this combination of skills in a technical master's program;
4. There is a demonstrated need for a program (Figure 1); and
5. Students are willing to apply to graduate-level programs that are relevant to the stakeholders in their chosen sector (Figure 2).

Figure 1 Estimated Market Size (number of students per year - Engineering)

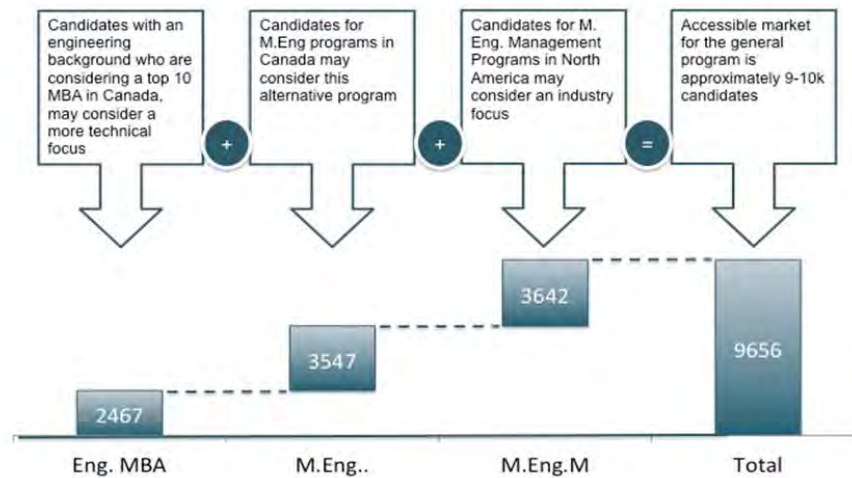
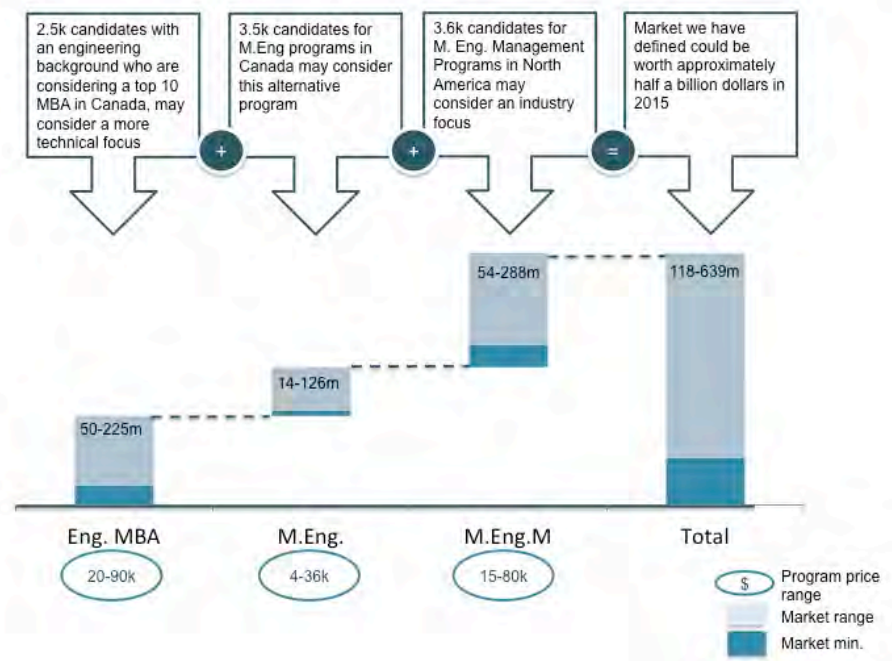


Figure 2 Estimated Market Size (\$ per year - Engineering)



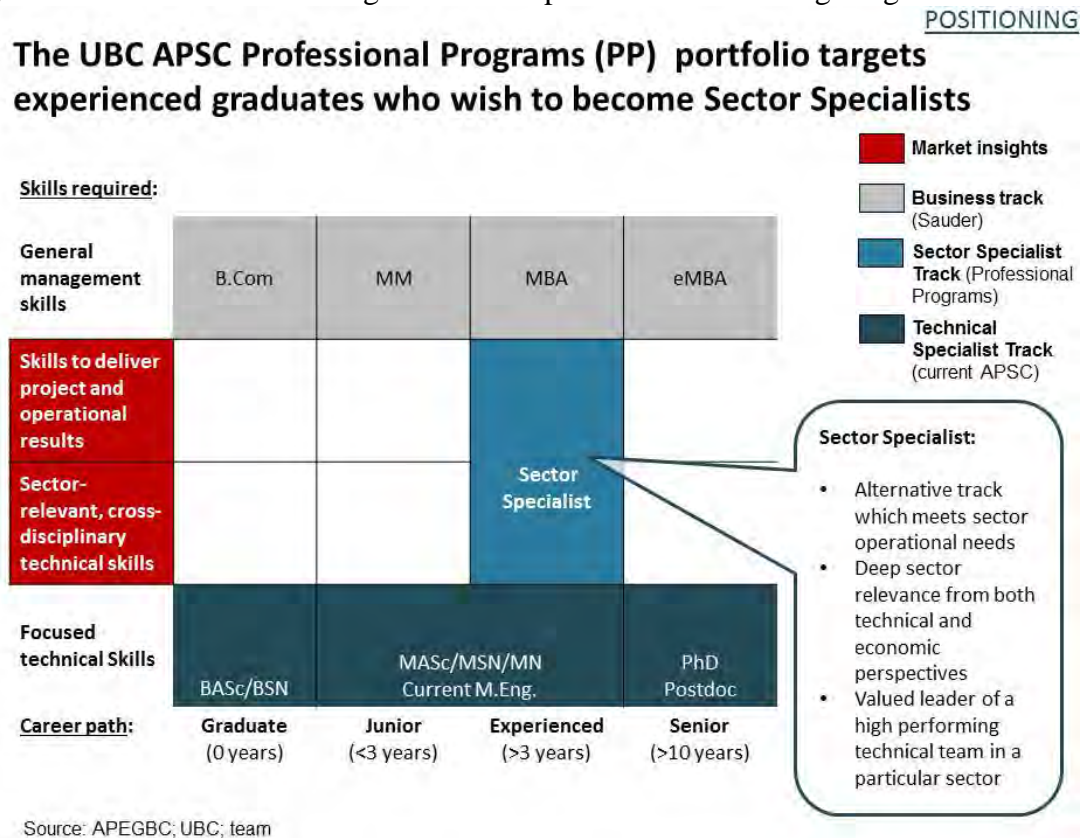
2.4. Program Overview

2.4.1. Mission

The program strives to provide students with a comprehensive and innovative education that will enable them to advance their career in a path that is different from the traditional APSC course-based master's or the Master of Business Administration (MBA). The program is structured to provide a combination of advanced technical skills, integrated with

professional skills, which will enable graduates to practice these skills and advance their career trajectory in their chosen industries.

Figure 3 Placement of New Program Sector Specialist with Existing Programs



2.4.2. Objectives of the Proposed Program

The intent is to produce engineering Program Managers who possess sufficient technical understanding to direct detailed engineering analyses. Some large corporations and government activities within the field find themselves deploying skilled business personnel to lead engineering teams. Often this results in a 'communications gap' between managers and technical staff thus impairing team effectiveness. The MEL in SGES program will create Program Managers who are peers to their engineering team members, but whereas those team members may bring specialist skills in an engineering discipline, the graduate of this program will have specialist skills in program management. The program will:

1. Equip tomorrow's professionals with the critical thinking and practical skills necessary to make important contributions to their chosen sector and to make Canada a leader in the global market.
2. Capitalize on Vancouver's industrially diverse environment and UBC's current stakeholder connections by offering an attractive hands-on education that allows students to get valuable work experience; and allows BC's companies to benefit from the minds of UBC's top graduate-level students.

3. Link the concerns of extra-university partners by offering students a project-based curriculum that explores cutting edge concepts in collaboration with sector professionals in the Vancouver region.
4. Emerge as the leading institution for the continuing education of current leaders in the Smart Grid Energy Systems sector and for the training of tomorrow's leaders.
5. Graduate highly skilled professionals who can fill the jobs gap currently existing and expected to increase in Canada in the foreseeable future.
6. Continue to develop a high profile faculty with international expertise in the theory and practice of Smart Grid Energy Systems.

The learning outcomes for the MEL in SGES program are presented in detail in Section 3.4.

2.5. Contribution to UBC Mandate and Strategic Plan

UBC is a comprehensive research-intensive university, consistently ranked among the 40 best universities in the world. Since 1915, UBC's West Coast spirit has embraced innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning.

In *Place and Promise: The UBC Plan*, our vision statement is: "As one of the world's leading universities, The University of British Columbia 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 program will act as one route to the fulfillment of this promise. With the involvement of faculty from all areas in APSC and the Faculty of Commerce and Business Administration; the development of new laboratory facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, sponsored research topics, and co-op job placements, the program will offer an exceptional learning environment for students and for faculty undertaking research. In addition, the program will attract students from around the world to study in Vancouver's diverse environment and graduate students who will, in turn, be in demand across the globe.

When we speak of globalization today, it is a synthesis of exploration, learning, and the global exchange of resources and knowledge—not unlike the university itself. Accordingly, the program addresses many of the goals outlined in *The UBC Plan*:

2.5.1. Student Learning

- The University provides the opportunity for transformative student learning through outstanding teaching and research, enriched educational experiences, and rewarding campus life.

The program will offer a comprehensive curriculum that draws upon the combined expertise of faculty in all areas of APSC, the Faculty of Commerce and Business Administration and of sector professionals. The program will synthesize theory and practice through a challenging project-based learning experience that will equip students with the skills and experience needed to excel in the world's most important and fast-growing industries. The number and variety of courses available to students will be purposely limited, as will student enrolment, to ensure a robust and streamlined learning experience that is centered on the program objectives. As well, strong stakeholder support and existing relationships between UBC APSC and local companies promises students both a rich educational experience and employment opportunities after graduation.

2.5.2. Innovation Excellence

- The University creates and advances knowledge and understanding, and improves the quality of life through the discovery, dissemination, and application of research within and across disciplines.

As a leading research and educational facility, UBC is expected to be a world leader, and *the* Canadian leader in the areas of the MEL SGES program, as we invest time and resources to create, sustain and grow for the future. By expanding UBC's current scholarship in the areas of this program, UBC will not only be a leader in the exchange of knowledge in these areas; it will also, by contributing to the involved industries, be a central part of the means by which people and knowledge are mobilized.

2.5.3. Community Engagement

- The University serves and engages society to enhance economic, social, and cultural well-being.

Engaging with local companies with regard to the needs of their sector is one of the key components of the program. With a curriculum grounded in collaborative community projects, a reciprocal and experiential learning environment will be created between students and local stakeholders.

2.5.4. International Engagement

- The University creates rich opportunities for international engagement for students, faculty, staff, and alumni, and collaborates and communicates globally.

The program will graduate students who will be in demand across the globe, from industries that will be based in Canada. It will graduate the trained professionals needed to ensure the self-sufficiency of Canada's sector-specific professionals, and the global influence of Canada itself. Strong industries, backed by highly qualified professionals, are key to securing Canada's global presence – to improving and sustaining Canada's innovation and economy, and strengthening Canada's contribution to the global market. By offering the program, UBC will therefore become an invaluable player in both national and international development.

2.5.5. Sustainability

- The University explores and exemplifies all aspects of economic, environmental, and social sustainability.

The program will play a role with the rest of the UBC community to meet society's needs without compromising those of future generations. The Pillar focus on Smart Grid Energy Systems is specifically directed to contributing highly qualified persons to address current and future challenges related to the clean and secure delivery of energy. Leadership and sustainability are central to the Platform courses and activities and services provided both inside and outside of the classroom. At all levels, this program is designed to be accountable and transparent in the use of available resources.

2.6. Support for New APSC Professional Master's Programs

The University supports the formation of new professional master's programs having goals in alignment with that of the institution. Support and resources are available in a variety of forms including assistance with market research, budgeting, and curriculum development. We have and continue to take advantage of all assistance in the creation, development, delivery and evaluation of the program.

APSC has identified its professional master's programs as having the potential to benefit greatly from not only revitalization, but also expansion. This initiative has been led by the Dean's office and has received consistent support from the Provost's Office. An overarching goal of these new programs is to revitalize the APSC graduate program offerings, which have not been systematically redeveloped for over 20 years. New Pillar courses will be available to all Ph.D., M.A.Sc. and Professional Master's students providing high quality, sector relevant, technically leading edge education for our graduate students.

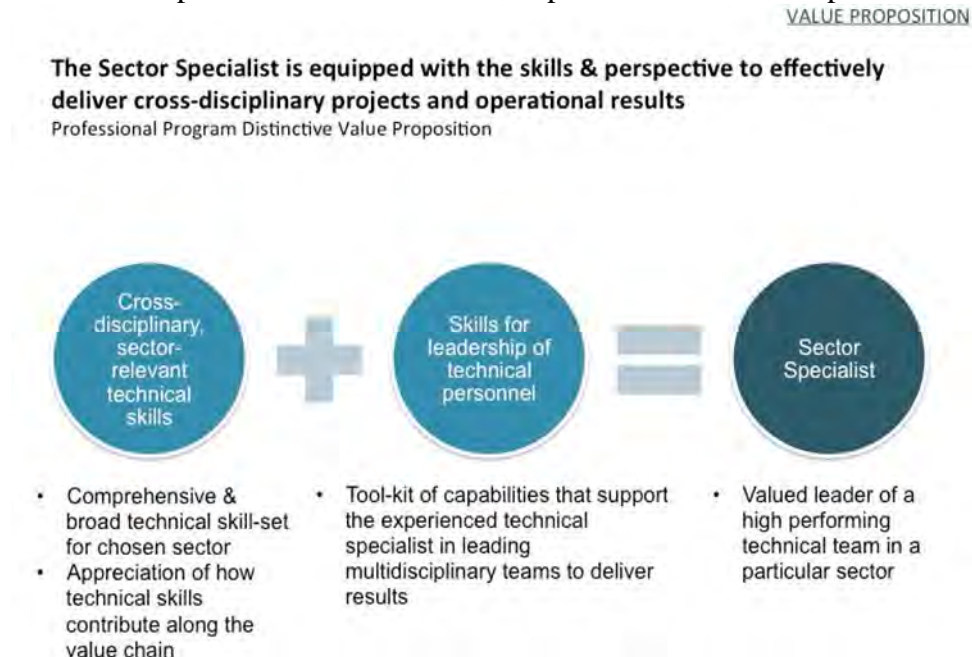
2.6.1. Opportunity Identification

It was felt that an opportunity may exist that had, as yet, not been explored in APSC. Given the unique structure of the Faculty, which is home to not only engineering programs, but also the School of Nursing, the School of Architecture and Landscape Architecture and the School of Community and Regional Planning, it was felt that the potential existed to create a suite of interdisciplinary master's degrees that were aligned with stakeholders in a way that a program housed in a single department or school could not. In order to establish the market for such opportunities, and to establish potential interdisciplinary themes to pursue, the following activities were undertaken:

1. Competitor scans;
2. Alumni tracking;
3. Ongoing dialogue with stakeholders to identify skills gaps;
4. Targeted market research / focus groups;
5. Dialogue with faculty to shape opportunities and program champions;

6. Initial feasibility assessment;
7. Distillation of program concept(s) including clear objectives in launch; and
8. Straw man concept for new professional program, with clear student target.

Figure 4 Relationship of Technical and Leadership Skills for a Sector Specialist



2.6.2. Program Development

Upon successful conclusion of the opportunity identification phase, program development initiated via the steps outlined below, with this document representing the basis of the material required for step 9. A key element that emerged from the opportunity identification phase was a program structure that featured a largely common Platform, comprising approximately 40% of each program, which would be the foundation for all new professional master's programs in APSC. The remaining 60% of the course content is then comprised of a set of courses drawn from across the Faculty that provide sector-specific technical content. The technical material is referred to as a Pillar. This structure was identified quite early on in the development process and it has been referred to internally as a 'Platform and Pillar' model from both the curriculum development and delivery perspectives.

1. Appointment of program Champion Dr. Martin Ordonez;
2. Discussions with advisory committee;
3. Refinement of proposition, program design and pricing;
4. Definition of operating model / formation of any partnerships;
5. Financial modelling;
6. Funding application;
7. Planning for course (re)design (CTLT);
8. Development of project plan;

9. Presentation to Faculty council, Senate, Board, Ministry – and plan refinement as needed;
10. Full program design in place; and
11. Approval from Senate and Ministry.

2.6.3. Implementation

In parallel with the approval process, implementation and launch of the new professional programs will require a significant effort well in advance of the commencement of the programs for the first cohort, which is anticipated for 2018. Key activities are summarized here:

1. Development of course materials and flexible learning (FL) delivery / co-op modules;
2. Development and launch of multi-touch marketing efforts (ideally at least 1 year in advance)
3. Set up in central systems (Enrolment Services, UBC IT);
4. Evaluation of applications (ideally application deadline 7 months in advance) and submission of accepted applications to Department and APSC Dean's Office for approval; and
5. Program ready to launch with inaugural group of students.

2.6.4. Program Management

Due to the intensive nature of the proposed programs and the expected audience, which would be primarily early career professionals, these programs will require dedicated resources within the Faculty to maintain high-quality, responsive service for administrative details surrounding their delivery (e.g. registration issues, scheduling details, facilitation of workshop activities, co-op placements, coordination of interdisciplinary capstone projects, etc.). Additionally, it is anticipated that there will be support for maintaining continuous program improvement, sufficient marketing efforts, ongoing development of community partners and stakeholder participants, and so on. The budget for these programs includes provisioning for the necessary staff, to be located in the Faculty, to ensure the ongoing support for the activities itemized below, which are regarded as necessary to deliver and maintain a program of the highest caliber:

1. Continuous feedback loop to improve delivery and learning outcomes;
2. Refreshment of marketing materials, with relationships / channels fostered ongoing;
3. Exploration / implementation of any content repurposing opportunities;
4. Tracking of student success rates;
5. Financial / operational management; and
6. Ongoing evolution of program to achieve learning, access, reputational and financial objectives.

2.7. Relationship to Established Programs

2.7.1. The University of British Columbia

Many of the advanced topics that will be covered under the program are already available through programs in the involved departments and schools of APSC at UBC, but the program will synthesize this material and offer a more interdisciplinary approach relevant to the smart grid technology sector.

The MEL in Smart Grid Energy Systems is a unique program within electrical engineering. The M.A.Sc. degree focus on research excellence and development of technology which is 5 – 10 years away from commercialization. The degree is a pre-requisite for doctoral studies. In contrast, the MEL in SGES degree focuses on current industry challenges and technologies currently available or expected within approximately three years. The successful candidate will have the pre-requisites to pursue a career in business or technology within the smart grid market sector.

The M. Eng. degree offers graduate level courses for specialization in areas of electrical and computer engineering. The degree does not focus on any particular area of technology. The MEL in SGES differs in that the program is cohort based and courses are designed to build specialized knowledge and skills in the smart grid market sector. Furthermore, the MEL in SGES includes courses in business and leadership, which are not available to M. Eng., and M.A.Sc. degrees.

The MEL SGES is significantly different from other MEL programs. The other MEL program offered by the Electrical and Computer Engineering department is Dependable Software Systems. This program is computer engineering based whereas the MEL in SGES has an electrical engineering focus. The MEL in Clean Energy Engineering deals with similar topics. However, it is hosted by the Clean Energy Research Centre, which has an emphasis in mechanical and chemical & biological engineering. The curriculum focuses on general topics of energy and sustainability. The MEL in SGES has a strong emphasis on electrical energy and how it is managed using the smart grid and associated technologies. The curriculum covers telecommunications and automated decision processes in addition to power systems.

Related existing thesis based master's programs include:

Master of Applied Science (M.A.Sc.) Specialization in Electrical / Computer Engineering
Faculty of Graduate and Postdoctoral Studies

The Master of Applied Science (M.A.Sc.) in Electrical and Computer Engineering Program is for students interested in pursuing advanced studies and research in Biomedical Technologies, Communications Systems, Computer and Software Systems, Energy Systems, or Micro and Nano Technologies. Electrical and Computer Engineers develop computing systems, from chip architecture to mobile applications, to communications protocols as well as the energy systems to allow these devices and all other electrical

systems to function. The discipline has a huge impact on society because it helps to design the systems we use in everything from health to finance to safety.

In this program students can choose to contribute to research on technologies very close to or already in the market or technologies that are in the early stages of research such as quantum computing or carbon nanotubes.

Related existing professional programs include:

Master of Engineering (M.Eng.)

Faculty of Applied Science, Engineering

The Master of Engineering is a non-thesis, course-based program designed for students who would like to further their education without pursuing research, or individuals who wish to advance their careers with enhanced technical knowledge. It normally takes 12-16 months to complete 30 credits. Students register for the M.Eng at the faculty level but generally complete courses within a specific department, and may take a collection of related courses that would be considered a 'Specialization', although the degree is somewhat generic in that it is simply granted as a M.Eng in a specific department in most cases. The admission to the M.Eng is not cohort-based, and the entry point may be either September or January. If there is a demonstrated demand to continue offering the M.Eng in addition to the MEL, then it is within each individual department's discretion to do so.

Master of Engineering Leadership (MEL)

Faculty of Applied Science, Engineering

The Master of Engineering Leadership is a non-thesis, course based program designed for students with three or more years of career experience. All MEL programs include advanced and interdisciplinary engineering courses focused on a particular technology sector. The technical program is integrated with business and leadership courses offered by UBC's Sauder School of Business. Some MEL programs offer coop placement and / or industry based project courses. The MEL degree takes 12 months to complete 30 credits. Students register for MEL at the faculty level but are admitted to a particular program which is hosted by one or more engineering departments. The admission to MEL is cohort-based and the entry point is January. Current MEL programs are listed below. Additional information on MEL programs is available in Appendix 6 which is available on request or from the [MEL website](#).

- Advanced Materials Manufacturing
- Clean Energy Engineering
- Dependable Software Systems
- Green Bio-Products
- Integrated Water Management
- Naval Architecture & Marine Engineering
- Urban Systems

Masters of Business Administration

Sauder School of Business

The Masters of Business Administration (MBA) offered by the Sauder School of Business at UBC is a 16 month program with a two week global immersion experience. The program develops students in the areas of creativity, decision making, global issues & macroeconomics, ethics, sustainability & value creation, and leadership development. There are three career paths offered: finance, product & service management, and innovation & entrepreneurship. Applicants require two years of post-graduate professional work experience and it is open to all academic backgrounds. The MBA does not provide sector specific technical knowledge.

2.7.2. Other British Columbia and Canadian universities

There are currently no universities in British Columbia or in Canada that offer accredited *graduate* programs with the proposed Platform and Pillar structure. Some programs offer specialized M. Eng. Degrees with a focus on power engineering, but they are not focused towards Smart Grid Energy Systems.

The following table lists some universities within Canada with related engineering degrees. The figure following illustrates the unique positioning of the proposed program.

University	Department	Program	Comments
Toronto	Division of Environmental Engineering and Energy Systems	Masters of environmental / energy systems engineering	No business component
Waterloo	Mechanical Engineering	Graduate diploma in green energy	Online, no business component
Queens	Multiple engineering departments	Masters in applied sustainability	No business component

Figure 5 Assessment of Categories of Professional Engineering Master's Programs



2.7.3. Level of Support and Recognition from other Post-Secondary Institutions

As a new program, support and recognition from other post-secondary institutions is limited. However, it is anticipated that participation from faculty members outside of UBC delivering content in the program will promote further support from institutions that offer traditional graduate programs in energy and communication technologies both nationally and internationally. UBC is one of the world's leading academic centers for energy systems and communication networks.

2.8. Demand for Program

The demand for professionals with technical and integrated professional skills is growing rapidly, and Canada currently has neither the trained personnel required to meet the needs, nor the means of training them. There are currently *no* other Canadian institutions that offer sector-focused (rather than research-oriented) training at the graduate level with the proposed Platform and Pillar structure. The MEL in SGES program has been developed to provide graduates the skills to capitalize on energy sector needs and fill emerging opportunities.

Access to energy is an enabler for human wellbeing and improved quality of life. Access to

energy impacts the production and accessibility of food, movement of goods and people, quality and availability of healthcare and supports governmental, educational and legal institutions which underpin today's society. Yet the need to deliver reliable energy in a sustainable way that is also affordable will require innovation and a broad knowledge base in multiple disciplines including both engineering and business. Smart grid systems are an emerging market sector that addresses society's energy need by incorporating renewable generation and dynamic allocation of energy resources to address the growing demand in both the developed and developing world. By 2023 global revenues in the smart grid market sector will grow by 30% to \$70B (Navigant Research, *Smart Grid: 10 Trends to Watch in 2015 and beyond*, 2014).

Combined with the need to provide energy to improve quality of life is the urgency to reinvest in the existing power grid. The American Society of Civil Engineers gave the US energy infrastructure a rating of D+ based on aging infrastructure and increased number of outages (<http://www.infrastructurereportcard.org/a/documents/Energy.pdf>). In addition, the number of new graduates with the skill set to both develop and maintain electrical infrastructure is currently limited which contributes to the trend of having non-technical directors manage energy companies and utilities.

Energy infrastructure deficiencies and scarcity of highly qualified persons (HQP) plus national and international policies promoting infrastructure investment and sustainability practices creates a unique opportunity for MEL in SGES graduates. The program develops leadership skills and provides both technical and business knowledge which will enable graduates to evaluate emerging smart grid technologies and identify market opportunities. The SGES industry sector focus group emphasized the importance of providing Canadian businesses access to smart grid experts in order to compete for local and especially international markets.

British Columbia has a unique opportunity to become a global power house for smart grid deployment. The province has diverse geography and climate zones providing the prerequisites for many different types of renewable generation including tidal, solar, run-of-river, wind and geothermal. Smart grid expertise would provide a platform to link these generation sources to produce a reliable energy network.

British Columbia also needs to diversify its economy which is currently heavily dependent on the resource industry. This has already started to happen with the emergence of venture capital and accelerator high-tech hubs especially in BC's lower mainland. Local smart grid experts produced through the MEL in SGES program would not only create new technology but also provide the infrastructure to enable other technologies.

Given UBC's location, the active and internationally recognized research of current faculty, and the recent achievements of UBC graduate and undergraduate students in Smart Grid Energy Systems areas, it is appropriate that UBC be the institution to implement a graduate-level programs that are lacking in Canada and now more important than ever.

2.8.1. Enrolment Predictions and Capacity

Significant demand is anticipated for the new programs. The desirability of an educational experience that can lead to rapid career progress upon graduation is reflected in the interest we have seen in the two existing professional master's programs.

To maintain a vibrant learning environment and admit the best and brightest applicants, however, the cohort size will be purposely limited. The minimum initial cohort is anticipated to be 20 students increasing to 41 by 2020. The program will not impact the enrolment of existing professional master's programs such as the M.Eng CHBE which attracts students who have obtained less than 3 years of relevant work experience since they finished their bachelor's program.

2.8.2. Tuition Rationale

[Removed for purposes of Curriculum.]

2.8.3. Scholarships

We are concerned about getting the right students for the program and recognize that the tuition assessment may be prohibitive for some outstanding applicants. As a consequence, we intend to go to stakeholders in each sector seeking named scholarships. 7.5 percent of the tuition revenue will be set aside for financial need.

2.8.4. Potential Sectors of Employment for Graduates

Graduates of the program will have developed those skills and practices that stakeholders value most highly in experienced APSC professionals. They will be creative and visionary in how they apply the knowledge and skills obtained through the program to their work.. Government and the private sector are hungry for experts to develop new processes and systems to explore and implement positive changes in their chosen area. Graduates can expect to find careers locally, nationally, and internationally.

2.8.5. Opportunities for Further Study

The professional master's degree at UBC is generally not recommended for students who wish to continue on to a Ph.D., and the proposed program will conform to this. As such, it is anticipated that most or all of the graduating students will go on to or return to work in their chosen sector.

3. Program Description and Specifications

3.1. Admission Requirements

- Applicants must hold an undergraduate credential in electrical engineering with a focus on energy or equivalent.
- A minimum of 3 years relevant experience.

The minimum admission requirement for students with degrees from Canadian or American institutions is an average of 76% (UBC-equivalency), calculated from senior-level coursework. An applicant with an average slightly less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework in the prospective area of study.

The minimum admission requirement for applicants with degrees from outside North America is an overall degree average of 76% (UBC-equivalency).

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

Applicants who do not meet both the academic and English language proficiency 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 Applied Science.

Lists of the required application documents are available on the program website. The Applied Science graduate program office is responsible for collection and assessment of application documents.

Transfer Credit

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, as an undergraduate, or as an unclassified student) may transfer up to 12 credits or up to 40% of the total number of credits needed for completion of their current program (whichever is more), provided that:
 - 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.
2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).
3. The 12-credit (40%) restriction applies to students in UBC-approved Exchange Agreements established by the UBC Go Global Office.
4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of the Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.

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.

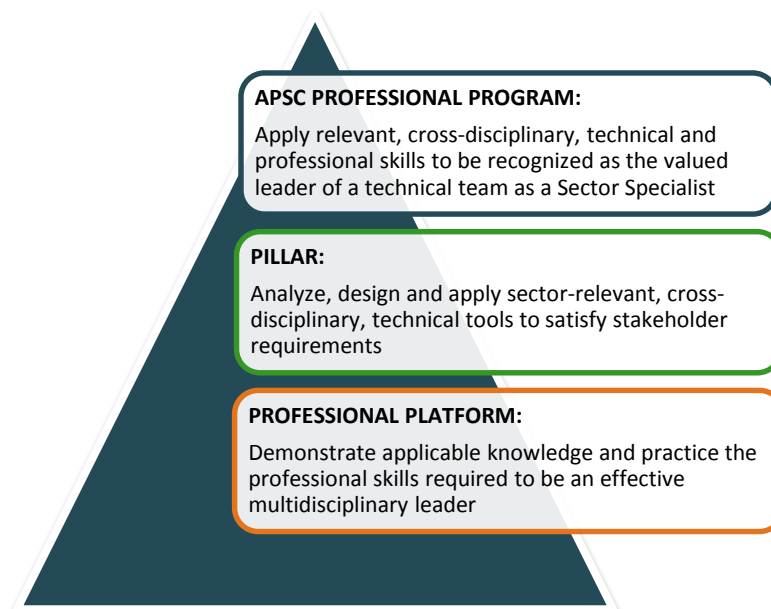
3.2. Program and Pillar Requirements

The program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform providing the professional skills required for an experienced graduate to be an effective technical manager and 18 credits dedicated to the Pillar advanced technical courses. Both the Platform and the Pillar have prescribed core courses. In general, where a program has a provision for elective choices, master's programs in the Faculty will allow a maximum of 6 credits of 300- or 400-level undergraduate coursework and 6 credits of 500-level directed studies. The program includes 1.5 credits of constrained electives that will be drawn from courses approved by the graduate program office. Additional constrained pillar electives are possible at the discretion of the pillar director for MEL in SGES candidates who have equivalent credentials for pillar core courses. The program will be delivered as an intensive one-year program. It is anticipated that this will be favorable to post-professional students already in the workplace. The program courses will involve a combination of classroom learning and integrated hands-on training.

There are seven Pillars leading to the degree of Master of Engineering Leadership at the

UBC Vancouver campus. The Master of Health Leadership and Policy in Seniors Care at the UBC Vancouver campus also utilizes this Platform. These programs are distinct and each has been approved separately, but as all APSC Professional Programs are conceptualized as sharing a common goal of graduating students with enhanced disciplinary knowledge and business skills the proposed array of programs is listed in Appendix 6 (available upon request) for information only.

Figure 7 Learning Objectives Relevant to the Three Levels of the Program



3.3. Platform Structure utilized by the MEL in Smart Grid Energy Systems

3.3.1. Leadership & Sustainability (4.5 credits total)

APPP 501 (1.5) Project Management and Leadership

APPP 502 (1.5) Sustainability and Leadership

APPP 503 (1.5) Organizational Leadership

Learning Outcomes

1. Lead multi-disciplinary teams to effectively deliver sustainable projects;
2. Articulate ideas, progress and outcomes through oral and written communications;
3. Plan & deliver multidisciplinary projects;
4. Identify and apply sustainability concepts to influence the triple bottom-line; and
5. Apply leadership principles to organizational and social change.

Content

1. Project management;
2. Organizational behaviour and structure;
3. Sustainability, ethics and policy;
4. Personal and professional leadership effectiveness & communications;
5. Application of concepts to trans-disciplinary challenges in organizational and social change; and
6. Fully integrated into technical streams through sector-relevant projects.

3.3.2. Business Foundations (3 credits)

APPP 504 (3) Business Acumen for Technical Leaders

Learning Outcomes

1. Demonstrate broad knowledge of the structure and mechanics of business;
2. Justify business decisions with data;
3. Articulate ideas, progress and outcomes through oral and written communication; and
4. Demonstrate an understanding of specific aspects of managerial accounting, strategy and performance, market evaluation, operations management, negotiations and contract management and business-case building and valuation

Content

1. Managerial accounting;
2. Strategy and performance;
3. Market evaluation;
4. Operations management;
5. Negotiations and contract management;
6. Business-case building and evaluation; and
7. Communication skills.

3.3.3. Faculty of Commerce and Business Administration Electives (Select 1.5 credits total)

Learning Outcomes

1. Identify and describe non-technical issues and skills that impacts business and management

Content (examples of Faculty of Commerce and Business Administration electives, credit values range from 0.7-1.5)

1. BAEN 542 (0.8) Prototyping
2. BAEN 543 (0.7) Disruption
3. BAEN 544 (0.8) Pitching Your Idea
4. BAEN 545 (0.7) Qualitative Models
5. BAEN 546 (0.8) Social Entrepreneurship
6. BAEN 547 (0.7) Innovation and Sustainability
7. BAFI 540 (0.8) Finance
8. BAMA 540 (0.8) Marketing Fundamentals
9. BAMA 541 (0.8) Product Service Management
10. BASC 540 (0.7) Operations Fundamentals
11. BAEN 550 (1.5) Fundamentals in Entrepreneurship
12. BAPA 501 (1.5) Government and Business
13. BAPA 510 (1.5) Public Policy and the Environment
14. BASD 501 (1.5) Corporate Social Responsibility
15. BASD 505 (1.5) Environmental Economics, Management, and Technology
16. BASM 501 (1.5) Business Strategy
17. BAHHR 505 (1.5) Leadership
18. BAHHR 507 (1.5) Two-Party Negotiations

3.3.4. Analytics and Interpretation for Applied Sciences APPP 505 (3 credits)

Learning Outcomes

1. Competently perform sector-relevant, deep analytical tasks;
2. Recognize data visualization tools and understand how they were created;
3. Demonstrate a conceptual understanding of ‘big data’ and predictive analytics for applications in practice;
4. Apply strategies to build a corporate culture around analytics; and
5. Recognize potential ethics or privacy issues related to data collection or use.

3.3.5. Professional Development

Provide support to candidates who wish to broaden their knowledge

1. Communication Assessment & Support;
2. Integrated Sector-specific Experience (Graduate Cooperative Education Program);
3. Employer or Mandatory Sector-specific Project;
4. e@UBC Lean Launchpad;
5. MITACS Step Business Skills;
6. APSC Toastmasters;
7. Continuing Studies (PM);
8. APSC Professional Development Workshops;
9. English Language Proficiency & Support;
10. Data Visualization (VIVA);
11. International Student Support; and

12. Professional Development Employment Centre (PDEC).

Figure 8 Summary of PDEC Resources



3.4 Overview of Pillar for the MEL in Smart Grid Energy Systems

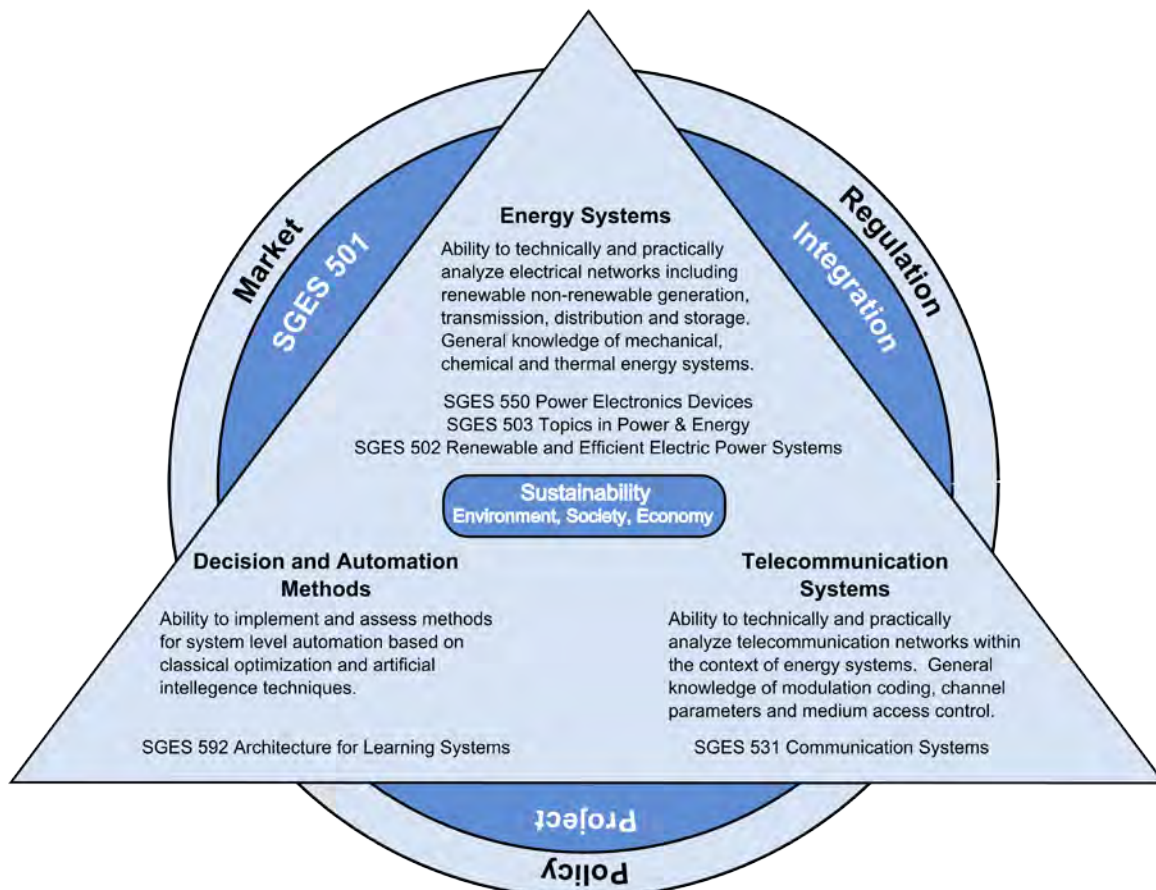


Figure 1: MEL in SGES Value Chain

Learning Outcomes

1. Technically and practically analyze electrical networks including renewable / non-renewable generation, transmission, distribution and storage. General knowledge of mechanical, chemical and thermal energy systems.
2. Technically and practically analyze telecommunication networks within the context of energy systems. General knowledge of modulation, coding, channel parameters and medium access control.
3. Implement and assess methods for system level automation based on classical optimization and artificial intelligence techniques.
4. Analyze smart grid systems and technologies based on an expert understanding in energy systems, communication networks and control automation.
5. Implement bench-scale sub-systems of the smart grid using best practices in design, testing and safety.
6. Assess non-technical issues that affects smart grid technology such as regulation, policy and markets.

7. Deliver multidisciplinary projects and operational results through the application of project management tools, leading and influencing the organization, and building and working through teams
8. Analyze and use data appropriately for technical and business decision-making
9. Demonstrate the critical components of how business works
10. Appreciate the impact of cross-cutting themes as they relate to energy systems, e.g. policy & regulation, technology, markets.

General description of Pillar

The Smart Grid Energy Systems (SGES) pillar provides students the interdisciplinary knowledge and practical skills to analyze and assess systems and technologies which combine energy generation & delivery, communication networks and decision automation techniques. Based on feedback from industry focus groups, this sector based technical knowledge is placed in context with respect to constraints and opportunities defined by regulation, policy and markets.

Three facets of the program include:

1. Multi-disciplinary course work emphasizing the interdependence of energy technology (SGES 550), communication networks (SGES 531) and automated decision making (SGES 592) which are the topic areas associated with smart grids.
2. Development of skills related to implementation, integration, measurement and automation of smart grid related technologies. This is reflected in the three term laboratory course (SGES 501) where students create a bench-scale smart energy grid through a series of guided projects.
3. Current trends in technology, policy and regulation that influence the smart grid energy sector are delivered through special seminars from faculty and industry guests (SGES 503) and through the selection of guided projects (SGES 501).

Courses

The specific courses and scheduling are summarized below for the three terms of the program. Note that SGES 501 Integration Project Course is worth six credits and runs over three terms.

APSC platform and courses specific to SGES

Term 1 January to April (17 credits) – includes 6 credits from the SGES 501 course which is distributed over three terms

Course	Home	Description
SGES 501 (6) Integration Project Course runs over 3 terms	EECE	Design, analysis, and implementation of technology to create a bench-scale smart grid energy system. Assessment of technology based on sustainability, market, policy and regulatory considerations.

		Term 1: Power systems, renewable energy, AC/DC networks, distribution network project.
SGES 502 (3) Renewable and Efficient Electric Power Systems	EECE	Electricity infrastructure, fundamentals of electric power, solar photovoltaic systems, wind electric conversion systems, other renewable energy systems, grid integration of renewables, smart grid, distributed energy resources, electricity storage.
SGES 550 (2) Power Electronic Devices	EECE	New devices and applications in power electronics with applications to smart grid systems.
<i>APPP 503 (1.5) Organizational Leadership</i>	<i>APSC/ Sauder</i>	<i>Behaviour of people and groups and its application to management and leadership within professional organizations; motivation, group dynamics, and organizational structure; leadership styles and effectiveness; assessing organizational effectiveness. Collaboratively delivered with the Faculty of Commerce and Business Administration.</i>
<i>APPP 501 (1.5) Project Management and Leadership</i>	<i>APSC/ Sauder</i>	<i>Leading complex multidisciplinary projects through management processes; project management frameworks, standards; core management processes of planning, scheduling, estimating, survey of communication, risk, and management issues; case studies in industry-relevant project management</i>
<i>APPP 505 (3) Analytics and Interpretation for Applied Sciences</i>	<i>APSC/ Sauder</i>	<i>Relevant measurable metrics of a project; data interpretation techniques; introduction to data visualization; overview of big data and predictive analytics; strategies related to metrics and data, ethical and privacy concerns.</i>

Term 2 May to August (5 credits)

Course	Home	Description
SGES 503 (2) Topics in Power and Energy	EECE	Current topics in smart grid systems and technologies in the context of

		sustainability, market, policy and regulation.
SGES 501 continued from term 1	EECE	Term 2: Sensing and metering devices, energy storage systems, hybrid distribution systems, energy quality monitoring.
<i>APPP 504 (3) Business acumen for technical leaders, August</i>	<i>APSC/ Sauder</i>	<i>Opportunity to tackle real-world problems in high-performing teams and present targeted solutions for assessment. Managerial accounting; strategy and performance; market evaluation; operations management; negotiations and contract management; business-case building; valuation.</i>

Term 3 September to December (8 credits)

Course	Home	Description
SGES 531 (3) Smart Grid Communication Systems	EECE	Review of probability theory, signals and noise, spectral analysis; information theory and applications; detection and estimation of signals in the presence of noise; performance calculations of modulation systems; digital communication techniques
SGES 592 (2) Architecture for Learning Systems	EECE	Learning in neural networks, error backpropagation, simulated annealing, content addressable memories. Data representation topics. Implementation challenges in real world scale problems. Architectures for function approximation in Reinforcement Learning. Comparison with conventional artificial intelligence: history and emerging trends.
SGES 501 continued from term 1	EECE	Term 3: Wired / wireless communication networks, data storage, closed loop decision feedback and control, machine learning.
<i>APPP 502 (1.5) Sustainability and Leadership</i>	<i>APSC/ Sauder</i>	<i>Skills for leading change that influences triple-bottom-line; sustainability, change agency systems thinking; awareness and perspective for engagement and</i>

		<i>communication; adaptive leadership; change dynamics; cases studies in organizational and social change.</i>
<i>Sauder Elective (1.5)</i>		

Technical Electives

The following electives can be audited by students or be used to replace pillar courses when the student has existing credentials from a previous degree or study. All changes to the MEL SGES curriculum must be approved by the program director.

- EECE 512 (3) Topics in Computer Security
- EECE 513 (3) Error Resilient Computing Systems
- EECE 549 (3) Dynamic Modeling of Electric Machines and Controls
- EECE 553 (3) Advanced Power Systems Analysis
- EECE 554 (3) Advanced Power Systems Control and Dynamics
- EECE 560 (3) Network Analysis and Simulation
- EECE 563 (3) Wireless Communication Systems
- EECE 565 (3) Communication Networks

3.5. Supervision and Evaluation

Unlike the graduate-level research programs at UBC, a student in the program will not be assigned a single, dedicated supervisor, but will rather be supervised day-to-day in their work by the Pillar Directors and the APSC Professional Program Office. Coursework is evaluated through mini-projects, exams, homework assignments and in-class quizzes. Supervision and evaluation of the integration project course will be provided by a professor and by sector-specific adjuncts. Expectations of students will be formalized through individual course syllabi.

3.6. Policies on Program Management and Assessment

The program will be administered under APSC. In delivering this new responsive model program it is essential that the Dean's Office, APSC Professional Program Office and Graduate Program Offices responsible for the Pillars collaborate and cooperate in an intimate fashion. The student should have access to all services and needs from within the same Faculty to ensure timely and comprehensive service of their academic and non-academic activities.

In parallel to internal reviews used to evaluate professional degrees conducted according to the APSC and UBC governance guidelines, the program will be evaluated and developed based on the recommendations of an Advisory Committee. This expert panel of outside professionals and academics will meet once per term. Committee membership will be approved by the Dean of APSC.

4. Calendar Statements [Follow in separate document]

5. Program Resources

5.1. Program Funding and Budget

The program will be delivered as fiscally sustainable. The budget is sensitive to enrolment numbers and has been calculated for an initial enrolment of 20, expected to increase to an enrolment of 41 by 2020. This enrolment is not expected to have any impact on enrolment in existing related programs (i.e., M.Eng in Electrical Engineering).

[Removed for purposes of Curriculum.]

As this program is unique, and is directed at a sector where there is identified unmet need, impact on enrolment from existing programs or on opportunities for existing students is expected to be small.

5.2. Qualified Faculty

Courses will be taught by faculty from Electrical and Computer Engineering in APSC and also from other faculties at UBC; Visiting Professors, sector-specific adjuncts and guest lecturers will be involved.

5.3. Pillar Champions

Each Pillar has a 'Champion', or in some cases more than one champion, who was instrumental in establishing the value proposition for the Pillar and also in the design of the curriculum. The Champion for the Smart Grid Energy Systems program is Professor Martin Ordonez. It is expected that this individual will continue to have an instrumental role in the administration and oversight of the Pillar upon program launch, and may become Program Director (see 5.5).

5.4. Library Resources

The library consultation for the MEL in SGES program has been submitted and will be completed before the senate curriculum review. The Platform courses will not require any additional Library support. Pillar courses with references are based on existing ECE department courses and should not require any additional library support. New pillar courses use online or journal references and should not require any additional library support.

5.5. Administration

- **Program Directors**

The Director for this Pillar will be appointed by the Dean of APSC. The Director will lead the implementation of the program and oversee its evolution, growth and position within

APSC. As well as assuming teaching and research commitments, the program Director will represent the program on university committees. The Director will become the principal point of contact for community and stakeholder partners. The Director will report to the Head of the lead department or school as appointed by the Dean of APSC.

- **Program Manager**

The suite of professional programs will be managed on a day-to-day basis by one or more centrally located program managers. This program manager would assist in: student recruitment, student enquiries, website development and maintenance, applications and admissions, timetabling, classroom scheduling, extra-curricular events and workshops, and addressing registration inquiries or issues. Support for admissions and records will also be provided by the APSC Dean's Office.

5.6. Space Requirements

Dedicated space for APSC Professional Programs is being developed within a new building to be completed in 2020. UBC has swing space available which will be used as interim accommodation until new facilities are ready.

5.7. Consultations with University Units

Consultation requests were sent to the following (see Appendix 5):

- Mechanical Engineering, Faculty of Applied Science
- Chemical and Biological Engineering, Faculty of Applied Science
- Faculty of Commerce and Business Administration
- Dean's Office, Faculty of Science

5.8. Contact Information

Contact Person:

University of British Columbia, Faculty of Applied Science, Dean's Office
Elizabeth Croft, Associate Dean, Education & Professional Development
elizabeth.croft@ubc.ca 604-822-6614

6 Appendices Accompanying Pillar Proposals

[Removed for purposes of Curriculum.]

Appendix 1 Market Research for MEL in SGES

Appendix 2 Budget Impact Forms

Appendix 3 Curriculum [Follows in separate document.]

Appendix 4 Library Consultations

Appendix 5 Other Consultations

Appendix 6 Overview of Related Pillars

Appendix 7 Market Research Focus Groups

1. M.Eng Alumni
2. Cooperative Education Employers
3. Excel summary of data

Appendix 8 Platform Proposal



UBC Curriculum Proposal Form

Change to Course or Program

Category: 1

<p>Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3rd, 2016 Effective Session: Winter Year: 2017</p>	<p>Date: February 5th, 2016 Contact Person(s): Dr. Martin Ordonez Phone: 604 827 1423 Email: mordonez@ece.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>Master of Engineering Leadership in Smart Grid Energy Systems</p> <p>Program Overview</p> <p>The Master of Engineering Leadership (M.E.L.) in Smart Grid Energy Systems (S.G.E.S.) is a program within the Faculty of Applied Science.</p> <p>The Smart Grid Energy Systems program option focuses on developing Highly Qualified Personnel (H.Q.P.) needed for the rapidly evolving smart grid energy sector. This sector has opportunities in the development of methods and technologies for: the integration of emerging generation and storage equipment into today's evolving power grid; communication systems for the ubiquitous sensing and control of all power grid components; and the automation of energy dispatch to meet the needs of users whether they are consumers, utility providers, emergency responders, for example. The curriculum emphasizes the application of technical knowledge through projects and labs.</p> <p>Admission Requirements</p>	<p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,0,0</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new master's program.</p> <p>Rationale: The creation of this program has been driven, in part, by strong interest from the external community (whereby British Columbia will see a high level of activity over the next few decades), in part by a desire to collaborate between the Departments and Schools in the Faculty of Applied Science and in part to raise UBC's profile and to attract students (both within Canada and abroad), and to collaborate internationally.</p> <p>The Smart Grid Energy Systems program focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. This sector is seeing opportunities in the development of methods and technologies for the integration of emerging generation and storage equipment into today's evolving power grid; communication systems for the ubiquitous sensing and control of all power grid components; and the automation of energy dispatch to meet the needs of users whether they be consumers, utility providers, emergency responders, etc. UBC has an exceptional interdisciplinary research group which covers all areas of smart grid power</p>



- Applicants must hold an undergraduate credential in electrical engineering with a focus on energy or equivalent.
- A minimum of 3 years relevant experience.

The minimum admission requirement for students with degrees from Canadian or American institutions is an average of 76% (UBC-equivalency), calculated from senior-level coursework. An applicant with an average slightly less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework in the prospective area of study.

The minimum admission requirement for applicants with degrees from outside North America is an overall degree average of 76% (UBC-equivalency).

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

systems and communications. The power systems group is working toward the modernization of the electric grid which involves green power generation and storage based on a network of small distributed systems. World class research expertise is in power generation, energy storage, power conversion, transmission, system modelling and dynamic constrained resource allocation.

The communications group has a broad base of expertise which covers information networks, reliable communication, channel characterization and modelling, and diversity techniques. Research applications focus on the integration of communications networks in diverse machine environments including buildings, vehicles and power grids.

Access to energy is an enabler for human wellbeing and improved quality of life. Access to energy impacts the production and accessibility of food, movement of goods and people, quality and availability of healthcare and supports governmental, educational and legal institutions which underpin today's society. Yet the need to deliver reliable energy in a sustainable way that is also affordable will require innovation and a broad knowledge base in multiple disciplines including both engineering and business. Smart grid systems are an emerging market sector that addresses society's energy need by incorporating renewable generation and dynamic allocation of energy resources to address the growing demand in both the developed and developing world. By 2023 global revenues in the smart grid market sector will grow by 30% to \$70B (Navigant Research, *Smart Grid: 10 Trends to Watch in 2015 and beyond*, 2014). Combined with the need to provide energy to improve quality of life is the urgency to



Language Assessment Battery):
minimum overall score of 81

- **PTE (Pearson Test of English - Academic):** minimum overall score of 59
- **CELP (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.

Applicants who do not meet both the academic and English language proficiency 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 Applied Science.

Lists of the required application documents are available on the program website. The Applied Science graduate program office is responsible for collection and assessment of application documents.

Transfer Credit

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, as an undergraduate, or as an unclassified student) may transfer up to

reinvest in the existing power grid. The American Society of Civil Engineers gave the US energy infrastructure a rating of D+ based on aging infrastructure and increased number of outages

(<http://www.infrastructurereportcard.org/documents/Energy.pdf>).

In addition, the number of new graduates with the skill set to both develop and maintain electrical infrastructure is currently limited which contributes to the trend of having non-technical directors manage energy companies and utilities.

Energy infrastructure deficiencies and scarcity of highly qualified persons (HQP) plus national and international policies promoting infrastructure investment and sustainability practices creates a unique opportunity for MEL in SGES graduates.

The program develops leadership skills and provides both technical and business knowledge which will enable graduates to evaluate emerging smart grid technologies and identify market opportunities. The SGES industry sector focus group emphasized the importance of providing Canadian businesses access to smart grid experts in order to compete for local and especially international markets.

British Columbia has a unique opportunity to become a global power house for smart grid deployment. The province has diverse geography and climate zones providing the pre-requisites for many different types of renewable generation including tidal, solar, run-of-river, wind and geothermal. Smart grid expertise would provide a platform to link these generation sources to produce a reliable energy network.

British Columbia also needs to diversify its economy which is currently heavily dependent on the resource industry. This has already started to happen with the emergence of venture capital and accelerator high-tech hubs especially in



12 credits or up to 40% of the total number of credits needed for completion of their current program (whichever is more), provided that:

- **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.**

2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).

3. The 12-credit (40%) restriction applies to students in UBC-approved Exchange Agreements established by the UBC Go Global Office.

4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean of the Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.

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

BC's lower mainland. Local smart grid experts produced through the MEL in SGES program would not only create new technology but also provide the infrastructure to enable other technologies.

Given UBC's location, the active and internationally recognized research of current faculty, and the recent achievements of UBC graduate and undergraduate students in Smart Grid Energy Systems areas, it is appropriate that UBC be the institution to implement a graduate-level programs that are lacking in Canada and now more important than ever.



and the Dean of Applied Science.

Program Requirements

Degree completion requires completion of 30 credits. This includes 18 credits of Pillar courses and 12 credits of Platform courses, including 1.5 credits of approved electives from the Faculty of Commerce and Business Administration. Platform refers to foundational coursework focused on the professional skills required for an experienced graduate to be an effective professional leader. These courses are common across many of the Applied Science Professional Master's programs. The Pillar contains the relevant technical material and is equivalent to a specialization. Each student's course work must be approved by the Applied Science graduate program office. A complete list of the courses required for successful completion is available on the M.E.L. in S.G.E.S. program website.

Note: SGES 501 (6) runs three semesters (12 months)

Winter Session – Term 2 (January – April)

SGES 501 (see note above), SGES 502 (3), SGES 550 (2), APPP 501 (1.5), APPP 503 (1.5), APPP 505 (3)

Summer Session – Term 1 (May – June);

Summer Session – Term 2 (July – August)

SGES 501 (see note above), SGES 503 (2), APPP 504 (3)

Winter Session – Term 1 (September - December);

SGES 501 (see note above), SGES 531 (3), SGES 592 (2), APPP 502 (1.5), Commerce & Business Admin. Elective (1.5)



<p>Financial Assistance</p> <p>Financial assistance based on academic merit and financial need may be available.</p> <p>Students should consult the M.E.L. in S.G.E.S. program website for more information.</p> <p>Contact Information</p> <p>Graduate Admissions Professional Masters Studio – Faculty of Applied Science The University of British Columbia Gerald McGavin Building 211 - 2386 East Mall Vancouver BC Canada V6T 1Z3 Tel: 604.827.4136 Email: apscpp@apsc.ubc.ca Web: www.apscpp.ubc.ca</p>	
<p>Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3rd, 2016 Effective Session (W or S): W Effective Academic Year: 2017</p>	<p>Date: February 5th, 2016 Contact Person: Dr. Martin Ordonez Phone: 604 827 1423 Email: mordonez@ece.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>SGES – Smart Grid Energy Systems</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course code</p> <p>Rationale for Proposed Change: This new course code is being created to identify the new courses within the Master of Engineering Leadership (MEL) Pillar in Smart Grid Energy Systems.</p>
<p>Proposed Calendar Entry:</p> <p>SGES 501 (6) Integration Project</p> <p>Design, analysis, and implementation of technology to create a bench-scale smart grid energy system. Assessment of</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL)</p>



<p>technology based on sustainability, market, policy and regulatory considerations.</p>	<p>Pillar in: Smart Grid Energy Systems.</p> <p>The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making.</p> <p>This course was developed in consultation with the SGES industry focus group. The focus group emphasized that graduates of the MEL SGES need hands-on experience implementing smart grid components and experience contextualizing decision making based on sustainability, market, policy and regulatory considerations.</p> <p>In the course, teams of students will implement and test various energy and telecommunications devices which are gradually integrated to form a smart grid energy system. Principles in optimization and machine learning will be applied to operate the system under specific test scenarios.</p> <p>The integration project stages are synchronized with lecture-based courses in order to reinforce knowledge and skills at a system level.</p> <p>The students will be evaluated based on their technical skills, safety practices, teamwork, and ability to justify their system in the context of sustainability, market, policy and regulation. The course deliverables will include a working prototype smart grid, prototype demonstrations and a final report.</p>
<p>Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3rd, 2016</p>	<p>Date: February 5th, 2016 Contact Person: Dr. Christine Chen Phone: 604 827 4238 Email: mordonez@ece.ubc.ca</p>



Effective Session (W or S): W Effective Academic Year: 2017	
Proposed Calendar Entry: SGES 502 (3) Renewable and Efficient Electric Power Systems Electricity infrastructure, fundamentals of electric power, solar photovoltaic systems, wind electric conversion systems, other renewable energy systems, grid integration of renewables, smart grid, distributed energy resources, electricity storage.	Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in: Smart Grid Energy Systems. The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making. The course material includes a comprehensive exposition of current pervasive renewable-based electricity generation technologies. Emphasis is placed on system-level problems, solutions, and advancements related to individual technologies as well as their role in the grid infrastructure. The course provides students an integrated perspective on planning issues broadly surrounding the integration of renewables, aimed at environmentally friendly energy production and consumption.
Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3 rd , 2016 Effective Session (W or S): W Effective Academic Year: 2017	Date: February 5th, 2016 Contact Person: Dr. Martin Ordonez Phone: 604 827 1423 Email: mordonez@ece.ubc.ca
Proposed Calendar Entry: SGES 503 (2) Topics in Power and Energy Current topics in smart grid systems and technologies in the context of	Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL)



sustainability, market, policy and regulation.

Pillar in: Smart Grid Energy Systems.

The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making.

The Topics in Power and Energy course reflects current major trends in the smart grid technology sector. The topics included in the seminar course will be reviewed yearly and selected based on technology, impact on sustainability, markets, policy and regulation.

The seminars will assume a knowledge of energy systems and devices.

Faculty: Applied Science
Department: Electrical & Computer Engineering
Faculty Approval Date: March 3rd, 2016
Effective Session (W or S): W
Effective Academic Year: 2017

Date: February 5th, 2016
Contact Person: Dr. Paul Lusina
Phone: 604 822 2405
Email: paull@ece.ubc.ca

Proposed Calendar Entry:

SGES 531 (3) Smart Grid Communication Systems

Review of probability theory, signals and noise, spectral analysis; information theory and applications; detection and estimation of signals in the presence of noise; performance calculations of modulation systems; digital communication techniques. Credit will be granted for only one of SGES 531 or ELEC 431.

Present Calendar Entry: N/A

Type of Action: Create new course

Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in: Smart Grid Energy Systems.

The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making.

The course provides an introduction to the



	<p>principles of modern communications and highlights the major system components common to all communication systems. The collection of performance data through sensors and the delivery of control commands is a fundamental part of the emerging smart grid technology sector. This course provides students with the concepts to understand communication systems in the context of the smart grid. Credit is granted for one of SGES 531 or ELEC 431.</p>
<p>Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3rd, 2016 Effective Session (W or S): W Effective Academic Year: 2017</p>	<p>Date: February 5th, 2016 Contact Person: Dr. Martin Ordonez Phone: 604 827 1423 Email: mordonez@ece.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>SGES 550 (2) Power Electronic Devices</p> <p>New devices and applications in power electronics with applications to smart grid systems. Credit will be granted for only one of SGES 550 or EECE 550.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in: Smart Grid Energy Systems.</p> <p>The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making.</p> <p>This course will cover introductory and intermediate topics presented in the existing course EECE 550 Topics in Power Electronics Design. Advanced material (1 lecture / week) from EECE 550 will not be included in SGES 550. Credit will be granted for only one of SGES 550 or EECE 550.</p> <p>The course material is relevant to The MEL</p>



	in SGES program in order to describe technologies which convert energy in smart grid systems.
Faculty: Applied Science Department: Electrical & Computer Engineering Faculty Approval Date: March 3 rd , 2016 Effective Session (W or S): W Effective Academic Year: 2017	Date: February 5th, 2016 Contact Person: Dr. Sarbjit Sarkaria Phone: Email: sarbjits@ece.ubc.ca
Proposed Calendar Entry: SGES 592 (2) Architecture for Learning Systems Learning in neural networks, error backpropagation, simulated annealing, content addressable memories. Data representation topics. Implementation challenges in real world scale problems. Architectures for function approximation in Reinforcement Learning. Comparison with conventional artificial intelligence: history and emerging trends. Credit will be granted for only one of SGES 592 or EECE 592.	Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in: Smart Grid Energy Systems. The Smart Grid Energy Systems Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving smart grid energy sector. The curriculum is designed for the student to understand the principles of energy systems, communication networks and automated decision making. The operation of smart grid systems depends on dynamic load management, adaptation to system failures and configuration to meet particular objectives, e.g. reducing cost, maximizing power, improving power quality. The complexity and variability of the smart grid limits the application of conventional decision automation methods. The machine learning topics presented in this course provide dynamic automation and control methods allowing the smart grid system to adapt to changing grid conditions in order to achieve a particular performance target. This course will cover the same material as presented in the existing course EECE 592



	Architecture for Learning Systems, excluding advanced topics. The course will have the SGES code to identify it as part of the MEL in SGES program. Credit will be granted for only one of SGES 592 or EECE 592.
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18 May 2016

To: Vancouver Senate

From: Senate Curriculum & Admissions Committees

Re: Master of Engineering Leadership in High Performance Buildings
(approval)

The Senate Curriculum and Admissions Committees have reviewed the material forwarded to them by the Faculty of Applied Science and enclose those proposals they deem ready for approval.

The following is recommended to Senate:

Motion: *“That the new Master of Engineering Leadership (M.E.L.) in High Performance Buildings (H.P.B.) degree program and its associated new course code and courses be approved.”*

Respectfully submitted,

Dr. Kenneth Baimbridge, Senate Curriculum Committee
Dr. Robert Sparks, Chair, Senate Admissions Committee

**FACULTY OF APPLIED SCIENCE***New program, new course code and courses*

Applied Science>Master of Engineering Leadership in High Performance Buildings;
HPB (High Performance Buildings) Course Code; HPB 501 (3) Green Building
Contemporary Practice; ARCH 574 (3) Green Building Contemporary Practice; HPB 502
(3) Regenerative Development; ARCH 575 (3) Regenerative Development; HPB 503 (3)
Whole Building Energy Modelling and Simulation; HPB 504 (3) Building Energy
Systems Design; HPB 505 (3) Capstone: Greening Existing Buildings; HPB 506 (3)
Capstone: New Building Energy Systems Design

EXECUTIVE SUMMARY
MASTER OF ENGINEERING LEADERSHIP IN HIGH PERFORMANCE BUILDING
FACULTY OF APPLIED SCIENCE
UNIVERSITY OF BRITISH COLUMBIA
MARCH 3, 2016

Overview

The University of British Columbia is 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. Since 1915, UBC's West Coast spirit has embraced innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning. The program strives to provide students with a comprehensive and innovative education that enables them to build on their past work experience and technical skills, adding leadership and interdisciplinary opportunities for learning and interaction with other students. Consultation with stakeholders has revealed that experienced engineers and early-career professionals in the chosen focus areas require sector-relevant, cross-disciplinary technical skills. They also require project management, communication and business skills to be effective leaders.

The program will focus on developing Highly Qualified Personnel (HQP) for the needs of the rapidly evolving high-performance building sector. "Building performance" has many dimensions, which will be addressed in the program, but the clear focus will be the engineering of building energy systems. Although the graduates will likely aim to work on "sustainable" or "green" buildings, the term "performance" indicates the focus on measurable building attributes. The building sector is seeing opportunities as the demand for sustainable buildings and cities increases. UBC has an exceptional group of researchers working on green and sustainable building, cities and integrated energy systems.

Credential

The credential awarded will be the Master of Engineering Leadership (M.E.L.) in High-Performance Buildings (H.P.B.). The degree will be a master's degree with a balance between advanced engineering modelling and design, current green building and regenerative design theories and applications. The field of study will be advanced technology and techniques for high performance building energy systems and integration.

Location

The Vancouver Campus of UBC is the main location for classroom education and administration. Course instruction and assignments will be achieved through collaborations among UBC, and private sector stakeholders involved in design and construction of high performance buildings.

Faculty Offering Program

The program will be offered formally, administered and delivered by the Faculty of Applied Science, UBC.

Program Start Date

The program will be offered in the 2016/17 academic year, beginning in January.

Program Completion Time

Anticipated time for completion of the program is one year of full-time academic study, including any work-term placements and non-academic activities.

Objectives of the Proposed Program

The intent is to produce Program Managers who possess sufficient technical understanding to direct technical analysis and design of high performance building energy systems. Some large corporations and government activities within the field find themselves deploying skilled business personnel to lead engineering teams. Often this results in a 'communications gap' between managers and technical staff thus impairing team effectiveness. The MEL in HPB program will create Program Managers who are peers to their engineering team members, but whereas those team members may bring specialist skills in an engineering discipline, the graduate of this program will have specialist skills in program management. The program will:

- Equip tomorrow's professionals with the critical thinking and practical skills necessary to make important contributions to their chosen sector and to make Canada a leader in the global market;
- Capitalize on Vancouver's industrially diverse environment and UBC's current stakeholder connections by offering an attractive hands-on education that allows students to get valuable work experience; and allows BC's companies to benefit from the minds of UBC's top graduate-level students;
- Link the concerns of extra-university partners by offering students a project-based curriculum that explores cutting edge concepts in collaboration with sector professionals in the Vancouver region;
- Emerge as the leading institution for the continuing education of current leaders in the high performance buildings sector and for the training of tomorrow's leaders.
- Graduate highly skilled professionals who can fill the jobs gap currently existing and expected to increase in Canada in the foreseeable future; and
- Continue to develop a high profile faculty with international expertise in the theory and practice of high performance building design.

Program Learning Outcomes

The learning outcomes of the MEL in HPB program are to:

- Develop an understanding of the critical issues in green buildings from the planning stages through implementation and operation;
- Implement various energy modelling applications and learn to design the associated state-of-the-art building systems;
- Strengthen core disciplines;
- Deliver multidisciplinary projects effectively (project management, leadership and team building, effective communications, sustainability);
- Use data appropriately for technical and business decision-making;
- Understand the critical components of how business works; and
- Appreciate the amount of interdisciplinarity in the industry and how to function in this environment.

The High-Performance Buildings program (HPB) pillar provides students with skills to recognize opportunities to improve building performance, and lead design changes to do so, for new and existing buildings. Based on industry consultation, we have focused on energy issues, but the program recognizes that this must be integrated into a holistic understanding of buildings.

Contribution to UBC's Mandate and Strategic Plan

In Place and Promise: The UBC Plan, our vision statement is: "As one of the world's leading universities, The University of British Columbia 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 program will act as one route to the fulfillment of this promise. With the involvement of faculty from all areas in APSC and the partnership of the Faculty of Commerce and Business Administration; the development of new facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, and sponsored project topics the program will offer an exceptional learning environment for students and faculty. In addition, the program will attract students from around the world to study in Vancouver's diverse environment and graduate students, who will, in turn, be in demand across the globe.

Delivery Methods

The Faculty of Applied Science (APSC) has taken the lead in developing a conceptual framework for new Professional Programs comprising a common "Platform" that provides the professional skills required for an experienced graduate to be an effective professional leader, with "Pillars" of specialization courses in particular sectors relevant to APSC's educational mission and professional communities (the term Platform refers to foundation coursework focused on project management, data analysis, and leadership skills, while the term Pillar is equivalent to specialization.) The program will be delivered as an intensive one-year program. It is anticipated that this program will be favourable to post-professional students already in the workplace. The Platform will be delivered by faculty from APSC and the Faculty of Commerce and Business Administration.

The Pillar courses will be delivered collaboratively by faculty from Mechanical Engineering and the School of Architecture and Landscape Architecture. The MEL in HPB program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform providing the professional skills required for an experienced graduate to be an effective technical manager and 18 credits dedicated to the Pillar in advanced technical courses. Both the Platform and the Pillar have prescribed core courses. For this program there will be 1.5 credits of constrained electives.

Linking Learning Outcomes and Curriculum Design

The number and variety of courses available to students is purposely limited to ensure a robust and streamlined learning experience that is centered on the program learning outcomes. Each of these outcomes corresponds to at least one of the core courses and summarizes the goal of that course.

Program Strengths

The program offers a comprehensive curriculum that is grounded in collaborative projects, embedded in the Platform coursework, and that draws upon the combined expertise of faculty in the participating units. The High Performance Building Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving high-performance buildings sector. This sector is seeing opportunities in the sectors of consulting, construction, manufacturing and government as the standards for energy conservation are increased by governments at all levels internationally. The curriculum is designed for the student to understand the critical issues in green buildings from the planning stages through implementation and operation as well as a detailed knowledge of energy modelling and state of the art building systems. By the end of the course the student have knowledge of sustainability and regenerative design as it relates to buildings as well as a detailed

knowledge of energy modelling and design of energy systems. There is no other master's program like this in Canada and the United States of America. Specific courses offered in this program are available from a number of schools in Canada and the United States of America and Europe.

Related Programs at UBC or other BC Post-secondary Institutions

A selection of courses offered through existing graduate programs will be used for the new program as well as the creation of new courses. There are currently no universities in British Columbia or in Canada that offer accredited *graduate* programs with the proposed Platform and Pillar structure. Some programs offer engineering degrees in sustainable environments programs or energy systems but nothing focussed on green buildings. The only university in Canada with anything somewhat similar is Ryerson University in Toronto which has a building science degree however the focus is on the building science aspects and not on high performance energy systems. Again it does not have the leadership aspect.

There are a few architecture degrees in the United States with a focus on green buildings. The one with the most similar content is the Carnegie Mellon program: Master of Science in Building Performance and Diagnostics (there is also a PhD program). This program does not have a leadership/business component but does have significant technical depth. The other programs in the U.S. do not have the same technical depth as this program. The following table lists some universities within North America with related engineering or architecture degrees.

University	Department	Program
Ryerson University	Interdisciplinary	Master of Building Science
Carnegie Mellon University	Architecture	Master of Science in Building Performance and Diagnostics
Georgia Tech	Architecture	Master of Science with a major in Architecture and a concentration in High Performance Buildings
University of Washington	Architecture	Master of Architecture in High Performance Building (Post Professional)
Philadelphia University	Architecture	Master of Science in Architecture, High Performance Buildings

There are several international degrees which are more similar in technical content and focus on high performance buildings. Notable is the RMIT degree which was also created based on industry interest. These include the following:

University	Department	Program
ETH Zurich	Interdisciplinary (run out of architecture)	Master's Programme in Integrated Building

		Systems
RMIT	Property, Construction and Project Management	Masters of Energy Efficient and Sustainable Building
TU Vienna	Interdisciplinary	Master Building Science and Technology
Aalborg University	Engineering and Technology	Master's Program in Building Energy Design

Institutional Contact

University of British Columbia

Faculty of Applied Science

Elizabeth Croft, Associate Dean, Education & Professional Development

604-822-6614 elizabeth.croft@ubc.ca

Appendix to the Executive Summary (for internal UBC purposes only)

Briefly describe the resources that will be required for the program:

Budget and Funding

[Removed for purposes of Curriculum.]

Space Requirements

Dedicated space for APSC Professional Programs is being developed within a new building to be completed in 2018-2019. In the interim, space has been acquired to serve the program in the Gerald McGavin building.

Library

The new courses for this program have been reviewed by the library. The Pillar courses will not require any additional Library support, and the Platform courses requiring new resources will be funded by the APSC Dean's Office. (See Appendix 2 & 3 and Appendix 7 Platform Proposal).

1. Introduction

This proposal represents one of a suite of new professional programs to be offered at the master's level in the Faculty of Applied Science (APSC). The programs were developed in parallel and will be delivered in parallel. That is, there will be a common start date and timeline for cohorts in all of the programs. A key feature of this suite of programs is that they are structured in two parts, which will be referred to as the "Platform" and the discipline-specific "Pillar". The Platform is foundational coursework focused on project management, data analysis, and leadership skills; it is a largely common element accessible to the suite of new APSC professional programs. The Pillar is equivalent to a specialization; it contains technical material specific to energy modelling and design in high performance green buildings. Successful completion of the Platform and a Pillar will result in the granting of one degree. Details of the contents of both the Platform and the High Performance Buildings Pillar are documented in this proposal.

2. Program Rationale

2.1. Defining the Need for the Program

Over the past year, members of the University's Flexible Learning Initiative and the APSC Dean's office have formed and worked closely with a Program Advisory Committee consisting of faculty from all areas of APSC. The following program proposal is the result of collaborative planning on the part of this committee.

2.2. Professional Program Mission Statement and Context

*The University of British Columbia, Faculty of Applied Science, wishes to attract students into a **high quality, sector-focused, distinctive & integrated** Applied Science Professional Program that has resources to be delivered sustainably and fiscally meets the University's goals.*

1. **UBC continues to encourage innovative** learning approaches within the fiscal model of cost recovery.
2. **The Flexible Learning Strategy** introduced in 2014 lists the development of new Professional Programs as a priority.

UBC has the opportunity to deliver a distinctive APSC Program in line with the University's Professional Program objectives.

2.3. Applied Science Professional Program Approach

2.3.1. Guiding Principles of the Program Advisory Committee

1. There will be meaningful engagement with stakeholders in market research, development, delivery and career opportunities.

2. Our target market includes candidates who might consider either an MBA or M.Eng Management, but would prefer to develop both sector-relevant technical skills and management and leadership skills – our program will be distinctive in the market.
3. We will take advantage of a standardization of core courses to improve quality of offering while reducing costs and complexity.
4. The program will be positioned as a premium alternative to a conventional professional master's program by offering distinctive, high quality, cross-disciplinary technical and non-technical skills to the experienced professional who wants to become a Sector Specialist.
5. Pillars are developed around areas of unique research and teaching strength in APSC, where multiple program “Faculty Champions” are identified, that have strong relevance to our professional community and societal benefit, have strong learner demand, and have strong industry demand for people trained in this sector.
6. Graduate courses offered in the High Performance Building Pillar will be open to all APSC graduate students with the appropriate prerequisites, and similarly to students in other graduate programs, space permitting. This will allow Applied Science to revitalize our graduate program offerings around areas of research and teaching strength, build strong interdisciplinary sector training capacity, and improve our connections to our professional community.

2.3.2. Extensive Market Research was used to Develop the Value Propositions

In order to establish the viability of offering new programs, the following activities were undertaken to validate the structure and proposed Pillars. Market research information is provided in Appendix 6. The objectives and curriculum were developed in conjunction with meaningful stakeholder consultation in 3 phases.

1. Market research & concept development conducted through:
 - a. Multiple meetings of an Inter-Disciplinary Working Committee of Applied Science that included the following core members:
 - i. Elizabeth Croft (Associate Dean)
 - ii. James Olson (Associate Dean)
 - iii. Hugh Brock (Vice Provost)
 - iv. Reza Vaziri (Head of Civil Engineering)
 - v. Peter Englezos (Head of Chemical & Biological Engineering)
 - vi. Sathish Gopalakrishnan (Professor in Electrical Engineering)
 - vii. Scott Dunbar (Head of Mining)
 - viii. Walter Merida (Director of Clean Energy Research Centre)
 - ix. Jon Mikkelson (Director of Naval Architecture & Marine Engineering)
 - x. Panos Nasiopoulos (Director of ICICS)
 - b. Survey of current M.Eng students and alumni (Appendix 6)
 - c. Survey of APSC employers (via Co-op Database) (Appendix 6)

- d. Desktop research of comparable programs in Canada and the United States of America

2. Validation by external sector experts

Interview with Blair McCarry [Perkins & Will] on 27 January 2016

Blair McCarry was very supportive of the program in general. He had the following general comments:

- ‘Would be valuable’;
- ‘Schools aren’t teaching this’; and
- ‘Incredible need for it’.

He also pointed out that we are not mentioning ‘carbon’ at all although the international discussion is all about carbon and he thought that should be included in the framing. He mentioned that he thought the course targeted a broader range of employment opportunities than we had mentioned at the time (this proposal includes this broadened range of potential jobs for graduates)

On the topic of curriculum he thought that the course was ~~a-bit~~ too business heavy in general. In addition, he would like to see a strong focus on communication since this is important in dealing with clients. On reflection, it was noted that the business program includes substantial education on communication and leadership aspects so in fact both concerns are addressed.

Mr. McCarry also emphasized that audacious goals for design needed an integrated approach, which he hoped would come out in the program. This is a goal of the program and the syllabus is set up to address it.

Interview with Ali Nazari [Integral Group] on 19 January 2016

Ali had comments both on framing of the course as well as curriculum and content. In general he had the following comments:

- ‘Project managers with energy modelling and electrical engineering background are in demand’;
- ‘The industry really needs this’; and
- ‘This is one of the best programs to be introducing’.

On the topic of curriculum Ali seemed overall very happy with the balance of the program. He thought that the one-year program could accelerate the learning of young people in this industry similar to the effect of 4 years of work experience in the field. The only note of caution concerned the technical depth. If we are getting people from diverse backgrounds, he thought the kind of material we teach in the energy-modelling course should change with the background of the student.

3. Refinement through sector focus groups

Focus Group 1 on General Industry Need for Program:

- Andrea Frisque [Stantec]
- Hamid Heiderali [Hamid Design Build]
- Blair McCarry [Perkins & Will]
- Kenneth McNamee [Stantec]
- Ali Nazari [Integral Group]
- David Ricketts [RDH Building Engineering],
- Andy Tashiro [MMM Group]

With the following UBC faculty and staff in attendance: Elizabeth Croft, Alberto Cayuela, Tamara Etmanski, Tarek Haji, Ronald Kellett, Annalisa Meyboom, Jenny Reilly, Steve Rogak, Leonel Roldan-Flores.

Specific finding of this group were:

1. Sales and Customer Discovery is key
 - “Getting the job” issues such as proposal and requirements, needs assessment, and reputational sales need to be addressed.
2. Integrated Design is key
 - Grad needs to understand owner requirements, codes, city requirements and integration;
 - Need to be able to influence clients; needs the lens of an architect to make an impact; and
 - Cross-communication between Mechanical Designer [capacity will size the requirements] and Energy Modeler [kW/h counters] is critical—seen as a strong coordinator role with potential.

Focus Group 2 on Review of Curriculum:

- Andy Tashiro [MMM Group]
- Martin Nielsen [Dialog Design]
- Leon Hawkins [Trane]

With the following UBC faculty and staff in attendance: Elizabeth Croft, Tamara Etmanski, Annalisa Meyboom, Helen May, Steve Rogak, Sheryl Staub-French

Specific finding of this group were:

- General curriculum focus and scope is about right ;
- HVAC course should be better integrated with building concerns such as passive design (comments have been addressed in curriculum);
- The tendering and life cycle analysis content is important;
- General enthusiasm about the program and focus. Comments such as “This is exactly what industry needs”; and
- General enthusiasm about doing this at UBC. Comments such as “UBC is an incubator” “You couldn’t find a better place to do it. – You’ve got district energy, residential, institutional and the operations department”.

2.3.3. Market Insights

Consistently repeated messages, related to the potential student market and the relevance of the particular focus areas, were heard through all market research activities outlined above.

For example:

1. Experienced engineers in their chosen careers require sector-relevant, cross-disciplinary technical skills;
2. Engineers require project management, communication and business skills to be effective leaders;
3. Few, if any, schools in Canada and the United States of America offer this combination of skills in a technical master’s program;
4. There is a demonstrated need for a program (Figure 1); and
5. Students are willing to apply to graduate-level programs that are relevant to the stakeholders in their chosen sector (Figure 2).

Figure 1 Estimated Market Size (number of students per year - Engineering)

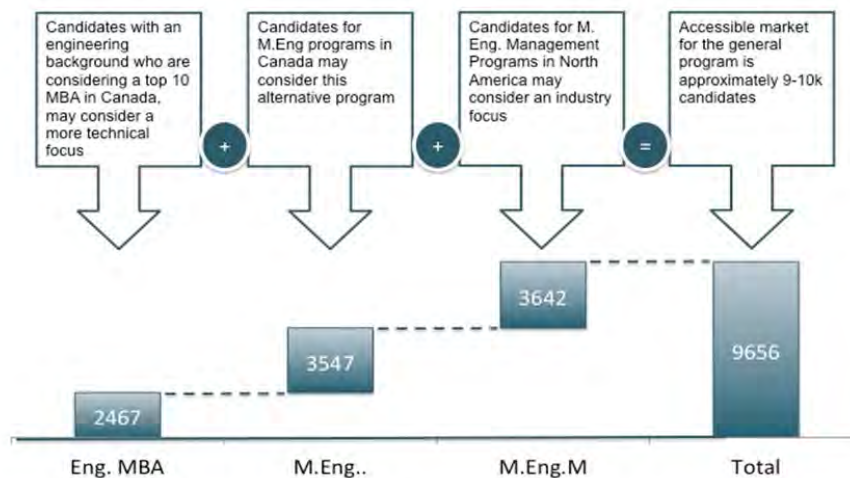
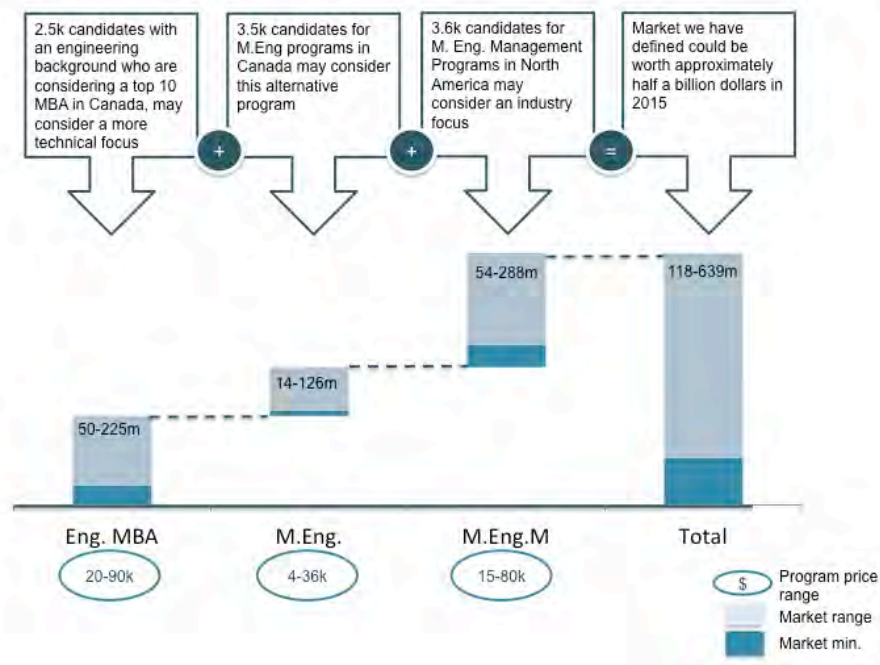


Figure 2 Estimated Market Size (\$ per year - Engineering)



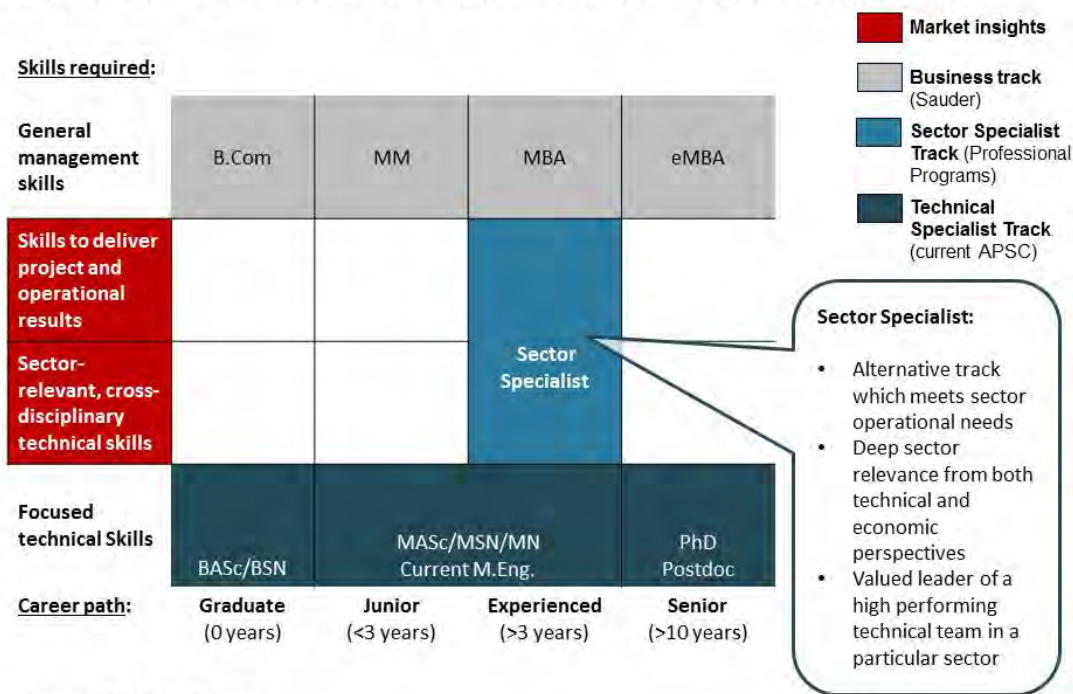
2.4. Program Overview

2.4.1. Mission

The program strives to provide students with a comprehensive and innovative education that will enable them to advance their career in a path that is different from the traditional APSC course-based master's or the Master of Business Administration (MBA). The program is structured to provide a combination of advanced technical skills, integrated with professional skills, which will enable graduates to practice these skills and advance their career trajectory in their chosen industries.

Figure 3 Placement of New Program Sector Specialist with Existing Programs

The UBC APSC Professional Programs (PP) portfolio targets experienced graduates who wish to become Sector Specialists



2.4.2. Objectives of the Proposed Program

The intent is to produce engineering Program Managers who possess sufficient technical understanding to direct detailed engineering analyses. Some large corporations and government activities within the field find themselves deploying skilled business personnel to lead engineering teams. Often this results in a 'communications gap' between managers and technical staff thus impairing team effectiveness. The MEL in HPB program will create Program Managers who are peers to their engineering team members, but whereas those team members may bring specialist skills in an engineering discipline, the graduate of this program will have specialist skills in program management. The program will:

1. Equip tomorrow's professionals with the critical thinking and practical skills necessary to make important contributions to their chosen sector and to make Canada a leader in the global market.
2. Capitalize on Vancouver's industrially diverse environment and UBC's current stakeholder connections by offering an attractive hands-on education that allows students to get valuable work experience; and allows BC's companies to benefit from the minds of UBC's top graduate-level students.
3. Link the concerns of extra-university partners by offering students a project-based curriculum that explores cutting edge concepts in collaboration with sector professionals in the Vancouver region.
4. Emerge as the leading institution for the continuing education of current leaders in the high performance building sector and for the training of tomorrow's leaders.
5. Graduate highly skilled professionals who can fill the jobs gap currently existing and expected to increase in Canada in the foreseeable future.
6. Continue to develop a high profile faculty with international expertise in the theory and practice of high performance building and regenerative design area.

2.4.3 Program Learning Outcomes

The learning outcomes of the MEL in HPB program are to:

- 1) Develop an understanding of the critical issues in green buildings from the planning stages through implementation and operation;
- 2) Implement various energy modelling applications and learn to design the associated state of the art building systems;
- 3) Strengthen the core discipline;
- 4) Deliver multidisciplinary projects effectively (project management, leadership and team building, effective communications, sustainability);
- 5) Use data appropriately for technical and business decision-making;
- 6) Understand the critical components of how business works; and
- 7) Appreciate the amount of interdisciplinarity in the industry and how to function in this environment.

2.5. Contribution to UBC Mandate and Strategic Plan

UBC is a comprehensive research-intensive university, consistently ranked among the 40 best universities in the world. Since 1915, UBC's West Coast spirit has embraced

innovation and challenged the status quo. Its entrepreneurial perspective encourages students, staff and faculty to challenge convention, lead discovery and explore new ways of learning.

In *Place and Promise: The UBC Plan*, our vision statement is: “As one of the world’s leading universities, The University of British Columbia 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 program will act as one route to the fulfillment of this promise. With the involvement of faculty from all areas in APSC and the Faculty of Commerce and Business Administration; the development of new laboratory facilities and the improvement of existing study spaces; and collaboration with local stakeholders in the areas of student mentorship, and sponsored research topics, the program will offer an exceptional learning environment for students and for faculty undertaking research. In addition, the program will attract students from around the world to study in Vancouver’s diverse environment and graduate students who will, in turn, be in demand across the globe.

When we speak of globalization today, it is a synthesis of exploration, learning, and the global exchange of resources and knowledge—not unlike the university itself. Accordingly, the program addresses many of the goals outlined in *The UBC Plan*.

2.5.1. Student Learning

- The University provides the opportunity for transformative student learning through outstanding teaching and research, enriched educational experiences, and rewarding campus life.

The program will offer a comprehensive curriculum that draws upon the combined expertise of faculty in all areas of APSC, the Faculty of Commerce and Business Administration and of sector professionals. The program will synthesize theory and practice through a challenging project-based learning experience that will equip students with the skills and experience needed to excel in the world’s most important and fast-growing industries. The number and variety of courses available to students will be purposely limited, as will student enrolment, to ensure a robust and streamlined learning experience that is centered on the program objectives. As well, strong stakeholder support and existing relationships between UBC APSC and local companies promises students both a rich educational experience and employment opportunities after graduation.

2.5.2. Innovation Excellence

- The University creates and advances knowledge and understanding, and improves the quality of life through the discovery, dissemination, and application of research within and across disciplines.

As a leading research and educational facility, UBC is expected to be a world leader, and

the Canadian leader in the areas of the MEL in HPB program, as we invest time and resources to create, sustain and grow for the future. By expanding UBC's current scholarship in the areas of this program, UBC will not only be a leader in the exchange of knowledge in these areas; it will also, by contributing to the involved industries, be a central part of the means by which people and knowledge are mobilized.

2.5.3. Community Engagement

- The University serves and engages society to enhance economic, social, and cultural well-being.

Engaging with local companies with regard to the needs of their sector is one of the key components of the program. With a curriculum grounded in collaborative community projects, a reciprocal and experiential learning environment will be created between students and local stakeholders.

2.5.4. International Engagement

- The University creates rich opportunities for international engagement for students, faculty, staff, and alumni, and collaborates and communicates globally.

The program will graduate students who will be in demand across the globe, from industries that will be based in Canada. It will graduate the trained professionals needed to ensure the self-sufficiency of Canada's sector-specific professionals, and the global influence of Canada itself. Strong industries, backed by highly qualified professionals, are key to securing Canada's global presence – to improving and sustaining Canada's innovation and economy, and strengthening Canada's contribution to the global market. By offering the program, UBC will therefore become an invaluable player in both national and international development.

2.5.5. Sustainability

- The University explores and exemplifies all aspects of economic, environmental, and social sustainability.

The program has the potential to play a significant role in sustainability of future cities through teaching this curriculum. The course is focused on training leaders in high performance green buildings which significantly reduces energy use in buildings. The more experts we have in this field, the more likely our buildings are to achieve reduced energy consumption.

2.6. Support for New APSC Professional Master's Programs

The University supports the formation of new professional master's programs having goals in alignment with that of the institution. Support and resources are available in a variety of forms including assistance with market research, budgeting, and curriculum development.

We have and continue to take advantage of all assistance in the creation, development, delivery and evaluation of the program. As part of the Flexible Learning Initiative, targeted growth of professional master's programs is one of UBC's four priorities over the next five years. The strategic plan for flexible learning campus-wide is articulated in its own web space, which can be found here:

<http://flexible.learning.ubc.ca/what-is-flexible-learning/flexible-learning-goals/>

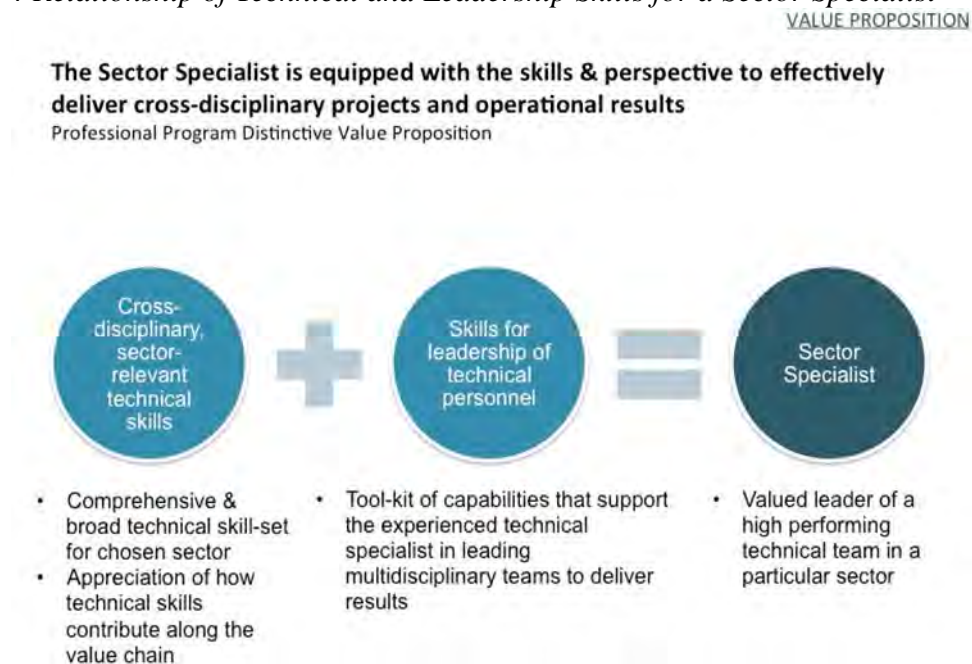
APSC has identified its professional master's programs as having the potential to benefit greatly from not only revitalization, but also expansion. This initiative has been led by the Dean's office and has received consistent support from the Provost's Office through the Flexible Learning Initiative. An overarching goal of these new programs is to revitalize the APSC graduate program offerings which have not been systematically redeveloped for over 20 years. New Pillar courses will be available to all Ph.D., M.A.Sc. and Professional Master's students providing high quality, sector relevant, technically leading edge education for our graduate students.

2.6.1. Opportunity Identification

It was felt that an opportunity may exist that had, as yet, not been explored in APSC. Given the unique structure of the Faculty, which is home to not only engineering programs, but also the School of Nursing, the School of Architecture and Landscape Architecture and the School of Community and Regional Planning, it was felt that the potential existed to create a suite of interdisciplinary master's degrees that were aligned with stakeholders in a way that a program housed in a single department or school could not. In order to establish the market for such opportunities, and to establish potential interdisciplinary themes to pursue, the following activities were undertaken:

1. Competitor scans;
2. Alumni tracking;
3. Ongoing dialogue with stakeholders to identify skills gaps;
4. Targeted market research / focus groups;
5. Dialogue with faculty to shape opportunities and program champions;
6. Initial feasibility assessment;
7. Distillation of program concept(s) including clear objectives in launch; and
8. Straw man concept for new professional program, with clear student target.

Figure 4 Relationship of Technical and Leadership Skills for a Sector Specialist



2.6.2. Program Development

Upon successful conclusion of the opportunity identification phase, program development initiated via the steps outlined below, with this document representing the basis of the material required for step 9. A key element that emerged from the opportunity identification phase was a program structure that featured a largely common Platform, comprising approximately 40% of each program, which would be the foundation for all new professional master's programs in APSC. The remaining 60% of the course content is then comprised of a set of courses drawn from across the Faculty that provide sector-specific technical content. The technical material is referred to as a Pillar. This structure was identified quite early on in the development process and it has been referred to internally as a 'Platform and Pillar' model from both the curriculum development and delivery perspectives.

1. Appointment of Program Champion;
2. Discussions with advisory committee;
3. Refinement of proposition, program design and pricing;
4. Definition of operating model / formation of any partnerships;
5. Financial modelling;
6. Funding application;
7. Planning for course (re)design (CTLT);
8. Development of project plan;
9. Presentation to Faculty Council, Senate, Board, Ministry – and plan refinement as needed;
10. Full program design in place; and
11. Approval from Senate and Ministry.

2.6.3. Implementation

In parallel with the approval process, implementation and launch of the new professional programs will require a significant effort well in advance of the commencement of the programs for the first cohort, which is anticipated for January 2017. Key activities are summarized here:

1. Development of course materials and flexible learning (FL) delivery;
2. Development and launch of multi-touch marketing efforts (ideally at least 1 year in advance);
3. Set up in central systems (Enrolment Services, UBC IT);
4. Evaluation of applications (ideally application deadline 7 months in advance) and submission of accepted applications to Department and APSC Dean's Office for approval; and
5. Program ready to launch with inaugural group of students.

2.6.4. Program Management

Due to the intensive nature of the proposed programs and the expected audience, which would be primarily early career professionals, these programs will require dedicated resources within the Faculty to maintain high-quality, responsive service for administrative details surrounding their delivery (e.g. registration issues, scheduling details, facilitation of workshop activities, coordination of interdisciplinary capstone projects, etc.). Additionally, it is anticipated that there will be support for maintaining continuous program improvement, sufficient marketing efforts, ongoing development of community partners and stakeholder participants, and so on. The budget for these programs includes provisioning for the necessary staff, to be located in the Faculty, to ensure the ongoing support for the activities itemized below, which are regarded as necessary to deliver and maintain a program of the highest caliber:

1. Continuous feedback loop to improve delivery and learning outcomes;
2. Refreshment of marketing materials, with relationships / channels fostered ongoing;
3. Exploration / implementation of any content repurposing opportunities;
4. Tracking of student success rates;
5. Financial / operational management; and
6. Ongoing evolution of program to achieve learning, access, reputational and financial objectives.

2.7. Relationship to Established Programs

2.7.1. The University of British Columbia

Many of the advanced topics that will be covered under the program are already available through programs in the involved departments and schools of APSC at UBC, but the program will synthesize this material and offer a more interdisciplinary approach.

Existing thesis based master's program: MASc and PhD students in engineering have worked on buildings research questions, supervised by faculty including Rogak, Bushe, Atabaki, Hodgson and many others. However, the thesis projects have had a narrow focus and there is a demand for a short, intense program that focuses on the needs of industry.

The MEL in Clean Energy Engineering (CEEN) covers some ground that overlaps with this MEL, including energy efficiency in the commercial and residential sectors of the economy. However, the MEL in CEEN has no coursework on building design, and the focus of MEL in CEEN is the “energy value chain” rather than the “buildings value chain”.

Master of Advanced Studies in Architecture (MASA)

Faculty of Graduate and Postdoctoral Studies

School of Architecture & Landscape Architecture

This is a 24-month post professional degree in architectural studies which focuses on a topic in architecture related to critical discourse in the field. Students work in independent design or research-based studies in collaboration with faculty members engaged in certain research themes. This immersive program is for those who wish to synthesize existing knowledge in architecture and progress contemporary concepts in the field. Within the wider University community, students engage themselves in a focused research environment enriched by resources and support from related disciplines such as community and regional planning, civil engineering, geography, and art history, visual and theory. The MASA program is intended for qualified applicants with a previous professional degree and a capacity for independent research. The main criterion for admissions include a comprehensive proposal for their research and prior consultation with individual faculty members to discuss the applicant's ambitions and research topics.

Existing professional programs include:

Master of Engineering (M.Eng.)

Faculty of Applied Science, Engineering

The Master of Engineering is a non-thesis, course-based program designed for students who would like to further their education without pursuing research, or individuals who wish to advance their careers with enhanced technical knowledge. It normally takes 12-16 months to complete 30 credits. Students register for the M.Eng at the faculty level but generally complete courses within a specific department, and may take a collection of related courses that would be considered a ‘Specialization’, although the degree is somewhat generic in that it is simply granted as an M.Eng in a specific department in most cases. The admission to the M.Eng is not cohort-based, and the entry point may be either September or January. If there is a demonstrated demand to continue offering the M.Eng in addition to the MEL, then it is within each individual department’s discretion to do so.

Master of Architecture (M.Arch.)

Faculty of Graduate and Postdoctoral Studies

School of Architecture & Landscape Architecture

The Master of Architecture is a three year professional accredited degree program in architecture required for licensure in Canada. This professional course of study is highly demanding with a large proportion of the curriculum being required coursework. Design

studios are integrated with courses in architecture history and theory, technical and material systems, and design media and representation. Within this challenging program, opportunities to develop individual identity and special skills are made possible through the selection of special topic design studios, thoughtful engagement with electives, and especially through the execution of the Graduation Project.

Master of Business Administration (M.B.A.)

Sauder School of Business

The Master of Business Administration is a 16-month course-based degree program. The program aims to develop business leaders who will be able to lead businesses both within Canada and internationally. It is the only Canadian MBA program with a mandatory Global Immersion Experience (GIE). It also includes experiential learning and a capstone project, both related to entrepreneurial business ideas. It has career tracks for students built into the program which include 1. Finance, 2. Product & Service Management and 3. Innovation & Entrepreneurship.

The MBA is a broader business and finance degree which does not have a technical engineering focus to it that this MEL in HPB has. The MEL in HPB that we are offering is meant to train technical leaders who are knowledgeable both about the technical skills and well versed in specific related business and project management issues. The scope of the business and leadership aspects, therefore, will be more focused toward what our technical leaders need to know as opposed to a broader business and finance background that is taught in the MBA.

2.7.2. Other British Columbia, Canadian and International Universities

There are currently no universities in British Columbia or in Canada that offer accredited *graduate* programs with the proposed Platform and Pillar structure. Some programs offer engineering degrees in sustainable environments programs or energy systems but nothing focussed on green buildings. The only university in Canada with anything somewhat similar is Ryerson University in Toronto which has a building science degree however the focus is on the building science aspects and not on high performance energy systems. Again it does not have the leadership aspect.

There are a few architecture degrees in the United States with a focus on green buildings. The one with the most similar content is the Carnegie Mellon program: Master of Science in Building Performance and Diagnostics (there is also a PhD program). This program does not have a leadership/business component but does have significant technical depth. The other programs in the U.S. do not have the same technical depth as this program. The following table lists some universities within Canada within North America with related engineering or architecture degrees.

Figure 5 Assessment Similar Programs in North America

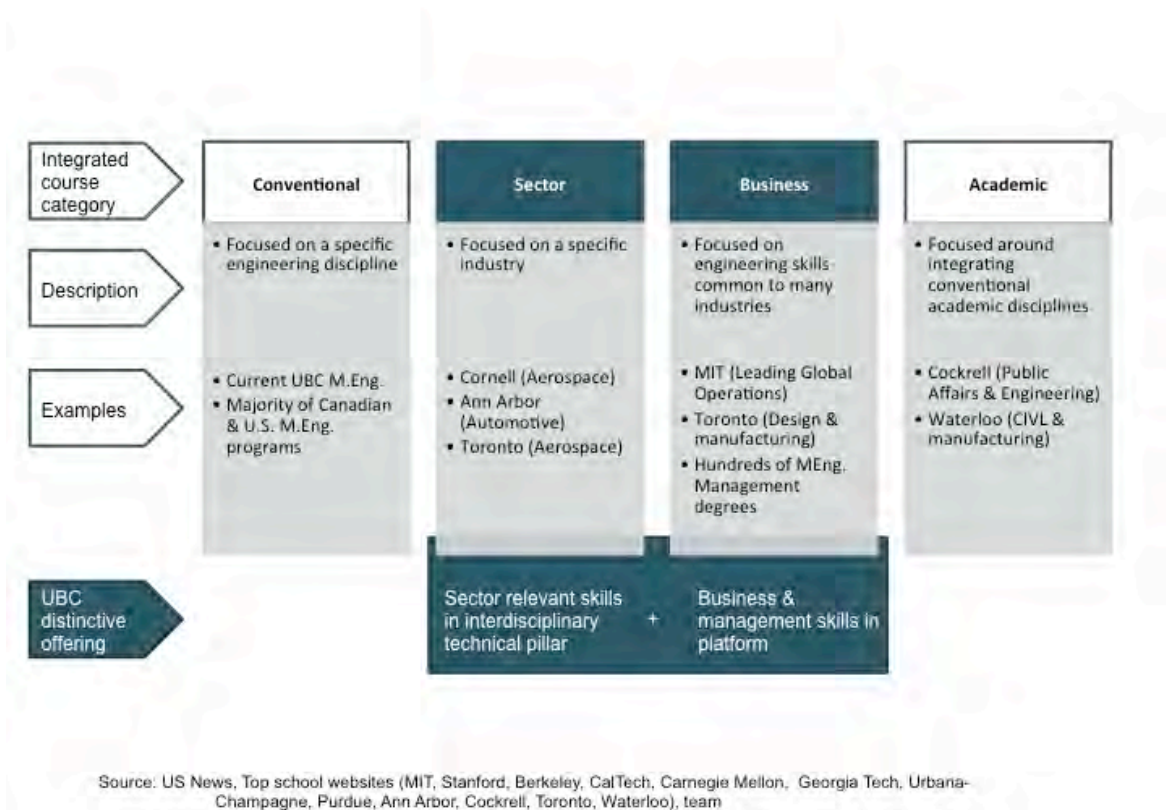
University	Department	Program
Ryerson University	Interdisciplinary	Master of Building Science

Carnegie Mellon University	Architecture	Master of Science in Building Performance and Diagnostics
Georgia Tech	Architecture	Master of Science with a major in Architecture and a concentration in High Performance Buildings
University of Washington	Architecture	Master of Architecture in High Performance Building (Post Professional)
Philadelphia University	Architecture	Master of Science in Architecture, High Performance Buildings

There are several international degrees which are more similar in technical content and focus on high performance buildings. Notable is the RMIT degree which was also created based on industry interest. These include the following:

Figure 6 Assessment Similar Programs in the World

University	Department	Program
ETH Zurich	Interdisciplinary (run out of architecture)	Master's Programme in Integrated Building Systems
RMIT	Property, Construction and Project Management	Masters of Energy Efficient and Sustainable Building
TU Vienna	Interdisciplinary	Master Building Science and Technology
Aalborg University	Engineering and Technology	Master's Program in Building Energy Design



2.7.3. Level of Support and Recognition from other Post-Secondary Institutions

As a new program, support and recognition from other post-secondary institutions is limited. However, it is anticipated that participation from faculty members outside of UBC delivering content in the program will promote further support from institutions that offer traditional graduate programs in high performance buildings both nationally and internationally. UBC is one of the world's leading academic centers for green building design and HVAC systems technologies in buildings.

2.8. Demand for Program

The demand for professionals with technical and integrated professional skills is growing rapidly, and Canada currently has neither the trained personnel required to meet the needs, nor the means of training them. There are currently *no* other Canadian institutions that offer sector-focused (rather than research-oriented) training at the graduate level with the proposed Platform and Pillar structure.

While governments at all levels are increasingly demanding reductions in energy from new

buildings and the built environment generally, there is little formal education in how to meet these demands. Code requirements are becoming more and more stringent but in order to meet these demands, professionals in design, analysis, construction and manufacturing need to have the expertise to make these changes. This program aims to address this need from industry.

The demand for the suite of APSC professional master's programs comes from multiple sides: both from municipalities, provincially and federally. Canada also needs the proposed programs for the success of consulting, contracting and manufacturing industries to stay competitive with international markets. Given UBC's location, the active and internationally recognized research of current faculty, and the recent achievements of UBC graduate and undergraduate students in the areas of sustainability and the built environment, it is appropriate that UBC be the institution to implement a graduate-level program that is lacking in Canada and now more important than ever.

2.8.1. Enrolment Predictions and Capacity

Significant demand is anticipated for the new programs. The desirability of an educational experience that can lead to rapid career progress upon graduation is reflected in the interest we have seen in the two existing professional master's programs.

To maintain a vibrant learning environment and admit the best and brightest applicants, however, the cohort size will be purposely limited. The minimum initial cohort is anticipated to be 20 students increasing to 41 by 2021. The program will not impact the enrolment of existing professional master's programs such as the M.Eng. since it has a different focus than this program.

2.8.2. Tuition Rationale

[Removed for purposes of Curriculum.]

2.8.3. Scholarships

We are concerned about getting the right students for the program and recognize that the tuition assessment may be prohibitive for some outstanding applicants. As a consequence, we intend to go to stakeholders in each sector seeking named scholarships. 7.5 percent of the tuition revenue will be set aside for financial need.

2.8.4. Potential Sectors of Employment for Graduates

Graduates of the program will have developed those skills and practices that stakeholders value most highly in experienced APSC professionals. They will be creative and visionary to see the potential to use the knowledge and training from the program effectively in their employment choices. The program will move the graduates forward on their career path and provide them business skills for doing work in a more advanced leadership role than they could have before and with more knowledge of the state of the art in their technical roles. Government and the private sector are hungry for experts to develop new processes and systems to explore and implement positive changes in their chosen area. Graduates can expect to find careers locally, nationally, and internationally.

The identified sectors for graduates based on industry consultation are as follows:

Types of employers:

- Consulting engineering firms dealing with engineering high performance green buildings;
- Contracting firms which build high performance green buildings;
- Developers who are leaders in green building development and have sufficient size to engage their own technical staff to oversee projects;
- Cities and other governments with high performance building standards; and
- Manufacturing firms who provide equipment for high performance buildings

Anticipated positions:

- Assistant project managers in consulting for high performance buildings – with promotion in a few projects to project manager;
- Supervisors of green building technologies aspects for a contracting firm (working under a supervising building lead);
- Green building expert for the developer on development teams which are building or want to build high performance buildings;
- Marketing or contract administrator for a high performance building equipment supplier; and
- Planning department lead on high performance building code specifications

2.8.5. Opportunities for Further Study

The professional master's degree at UBC is generally not recommended for students who wish to continue on to a Ph.D., and the proposed program will conform to this. As such, it is anticipated that most or all of the graduating students will go on to or return to work in their chosen sector. It is possible, however, that a small number of students will continue to Ph.D.-level study at UBC or elsewhere.

3. Program Description and Specifications

3.1. Admission Requirements

This program is delivered jointly between the Department of School of Architecture and Landscape Architecture (within the Faculty of Applied Science) and the Department of Mechanical Engineering. Applicants must hold either an undergraduate credential in engineering or equivalent and 3 years relevant experience or a professional Masters in Architecture or equivalent and 3 years relevant experience. Applicants lacking these requirements may be required to complete additional coursework on the recommendation of the Program Director. Additionally, applicants with backgrounds only in architecture

may be required to complete prerequisite coursework in engineering on the recommendation of the Program Director.

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 slightly less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework in the prospective area of study.

The minimum admission requirement for applicants with degrees from outside North America is an overall degree average of 76% (UBC-equivalency).

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. Applicants must present a minimum IELTS score of 7 with no band lower than 6.5 or internet-based TOEFL (iBT) score of 90. Applicants who have not fulfilled these requirements, but who have several years of relevant technical and professional work experience in English to offset such deficiencies, may be granted admission on the recommendation of the Program Director.

Applicants who do not meet the 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 appropriate graduate program and approval of the Program Director.

Lists of the required application documents are available on the program website. The Applied Science graduate program office is responsible for collection and assessment of application documents.

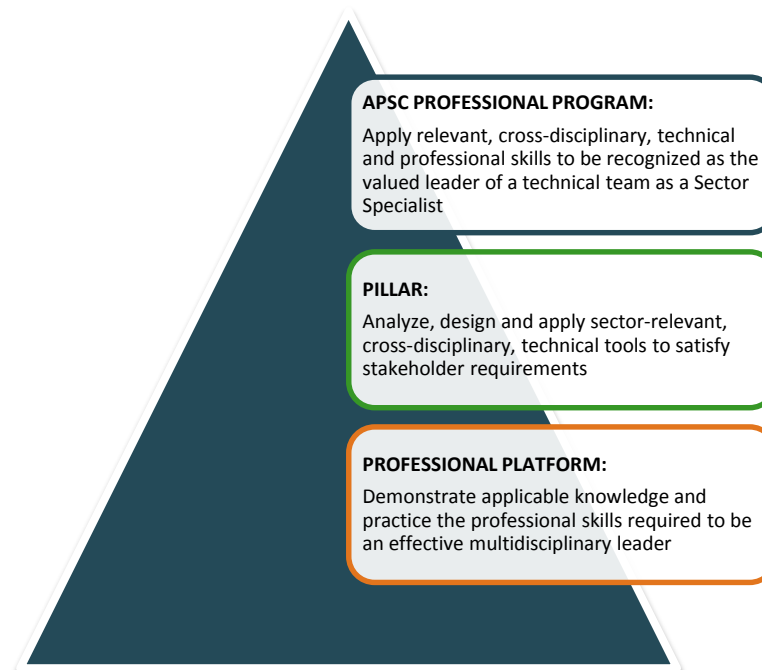
3.2. Program and Pillar Requirements

The program requires a minimum of 30 credits of coursework. The distribution will be 12 credits dedicated to the Platform providing the professional skills required for an experienced graduate to be an effective technical manager and 18 credits dedicated to the Pillar advanced technical courses. Both the Platform and the Pillar have prescribed core courses. In general, where a program has a provision for elective choices, master's programs in the Faculty will allow a maximum of 6 credits of 300- or 400-level undergraduate coursework and 6 credits of 500-level directed studies. The program includes 1.5 credits of constrained electives that will be drawn from Sauder courses approved by the graduate program office. The program will be delivered as an intensive one-year program. It is anticipated that this will be favorable to post-professional students already in the workplace. The program courses will involve a combination of classroom learning and integrated hands-on training.

There are currently seven Pillars leading to the degree of Master of Engineering Leadership

at the UBC Vancouver campus (see Appendix 5 for prospective program curriculum) with two more proposed (including this one). The Master of Health Leadership and Policy in Seniors Care at the UBC Vancouver campus also utilizes this Platform. These programs are distinct and each will be reviewed separately, but as all APSC Professional Programs are conceptualized as sharing a common goal of graduating students with enhanced disciplinary knowledge and business skills the proposed array of programs is listed in Appendix 5 for information only.

Figure 8 Learning Objectives Relevant to the Three Levels of the Program



3.3. Platform Structure utilized by the MEL in High Performance Buildings

3.3.1. Leadership & Sustainability (4.5 credits total)

APPP 501 (1.5) Project Management and Leadership

APPP 502 (1.5) Sustainability and Leadership

APPP 503 (1.5) Organizational Leadership

Learning Outcomes

1. Lead multi-disciplinary teams to effectively deliver sustainable projects;
2. Articulate ideas, progress and outcomes through oral and written communications;
3. Plan & deliver multidisciplinary projects;
4. Identify and apply sustainability concepts to influence the triple bottom-line; and
5. Apply leadership principles to organizational and social change.

Content

1. Project management;

2. Organizational behaviour and structure;
3. Sustainability, ethics and policy;
4. Personal and professional leadership effectiveness & communications;
5. Application of concepts to trans- disciplinary challenges in organizational and social change; and
6. Fully integrated into technical streams through sector-relevant projects.

3.3.2. Business Foundations (3 credits)

APPP 504 (3) Business Acumen for Technical Leaders

Learning Outcomes

1. Gain broad knowledge of the structure and mechanics of business;
2. How to use data for decision-making;
3. Articulate ideas, progress and outcomes though oral and written communication; and
4. Practical level of understanding in specific aspects of managerial accounting, strategy and performance, market evaluation, operations management, negotiations and contract management and business-case building and valuation.

Content

1. Managerial accounting;
2. Strategy and performance;
3. Market evaluation;
4. Operations management;
5. Negotiations and contract management;
6. Business-case building and evaluation; and
7. Communication skills.

3.3.3. Faculty of Commerce and Business Administration Electives (Select 1.5 credits total)

Learning Outcomes

1. Gain exposure to non-technical issues and skills that impact business and management

Content (examples of Faculty of Commerce and Business Administration electives, credit values range from 0.7-1.5)

1. BAEN 544 (0.8) Pitching Your Idea
2. BAEN 545 (0.7) Qualitative Models
3. BAEN 546 (0.8) Social Entrepreneurship
4. BAEN 547 (0.7) Innovation and Sustainability
5. BAFI 540 (0.8) Finance
6. BAMA 540 (0.8) Marketing Fundamentals
7. BAMA 541 (0.8) Product Service Management
8. BASC 540 (0.7) Operations Fundamentals
9. BAEN 550 (1.5) Fundamentals in Entrepreneurship
10. BAPA 501 (1.5) Government and Business
11. BAPA 510 (1.5) Public Policy and the Environment

12. BASD 501 (1.5) Corporate Social Responsibility
13. BASD 505 (1.5) Environmental Economics, Management, and Technology
14. BASM 501 (1.5) Business Strategy
15. BAHHR 505 (1.5) Leadership
16. BAHHR 507 (1.5) Two-Party Negotiations

3.3.4. Analytics and Interpretation for Applied Sciences APPP 505 (3 credits)

Learning Outcomes

1. Ensure competency to perform sector-relevant, deep analytical tasks;
2. Recognize data visualization tools and understand how they were created;
3. Develop a conceptual understanding of 'big data' and predictive analytics for applications in practice;
4. Acquire strategies to build a corporate culture around analytics; and
5. Recognize potential ethics or privacy issues related to data collection or use.

3.3.5. Professional Development

Provide support to candidates who wish to broaden their knowledge

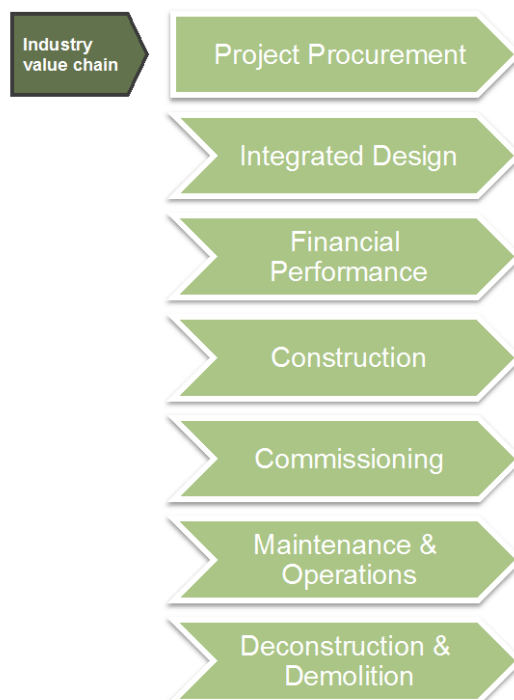
1. Communication Assessment & Support;
2. Employer or Mandatory Sector-specific Project;
3. e@UBC Lean Launchpad;
4. MITACS Step Business Skills;
5. APSC Toastmasters;
6. Continuing Studies (PM);
7. APSC Professional Development Workshops;
8. English Language Proficiency & Support;
9. Data Visualization (VIVA);
10. International Student Support; and
11. Professional Development Employment Centre (PDEC).

Figure 9 Summary of PDEC Resources



3.4 Overview of Pillar for the MEL in HPB

Value Chain



Learning Outcomes

- 1) Develop an understanding of the critical issues in green buildings from the planning stages through implementation and operation;
- 2) Implement various energy modelling applications and learn to design the associated state of the art building systems;
- 3) Strengthen the core disciplines;
- 4) Deliver multidisciplinary projects effectively (project management, leadership and team building, effective communications, sustainability);
- 5) Use data appropriately for technical and business decision-making;
- 6) Understand the critical components of how business works; and
- 7) Appreciate the impact of cross-cutting themes in industry.

General description of Pillar

The High-Performance Buildings program (HPB) pillar provides students with skills to recognize opportunities to improve building performance, and lead design or operational changes to do so, for new and existing buildings. Based on industry consultation, we have focused on energy issues, but the program recognizes that this must be integrated into a holistic understanding of buildings.

Thus, the program has three major themes:

1. Technical coursework for analysis and design of energy systems. This theme is covered by HPB 503 and HPB 504, and also reinforced through the capstone courses.
2. Holistic understanding of green building practice (HPB 501) and regenerative design (HPB 502). These courses will be provided by SALA, and will include green rating tools such as LEED and life cycle analysis. There is some intentional overlap with the technical coursework (above), but in the SALA course streams, the “story” is told from the perspective of the architect, traditionally the interface between clients, government and engineers.
3. Capstone courses (HPB 505 and 506) will provide genuine building design and retrofit experiences, working in teams, with real clients. These courses are structured to require use of tools acquired in the themes above. These courses will also provide specific technical tools (such as building information modelling, BIM) and will be co-taught by engineering and architecture.

Courses

The specific courses and scheduling are summarized below for the three terms of the program. Notice that the program is designed to leave room in the schedule for an optional elective. This elective course would represent a credit overload, but might be attractive to students wishing to either reinforce fundamentals or deepen their knowledge in specific areas.

APSC platform and courses specific to HPB

Term 1 January to April (12 credits)

Course	Home	Description
<i>APPP 503 Organizational Leadership (1.5)</i>	<i>APSC/ Sauder</i>	<i>Behaviour of people and groups and its application to management and leadership within professional organizations; motivation, group dynamics, and organizational structure; leadership styles and effectiveness; assessing organizational effectiveness. Collaboratively delivered with the Faculty of Commerce and Business Administration.</i>
<i>APPP 501 Project Management and Leadership (1.5)</i>	<i>APSC/ Sauder</i>	<i>Leading complex multidisciplinary projects through management processes; project management frameworks, standards; core management processes of planning, scheduling, estimating, survey of communication, risk, and management issues; case studies in industry-relevant project management</i>
<i>APPP 505 Analytics and Interpretation for Applied Sciences (3)</i>	<i>APSC/ Sauder</i>	<i>Relevant measurable metrics of a project; data interpretation techniques; introduction to data visualization; overview of big data and predictive analytics; strategies related to metrics and data, ethical and privacy concerns.</i>
HPB 501 Green Building Contemporary Practice (3)	SALA	Green contemporary building design overview – indoor environment, waste water systems, energy system - lighting - whole systems
HPB 504/MECH 473 Building Energy Systems Design (3)	MECH	Indoor environmental requirements for ventilation, acoustics and lighting. Simplified heating and cooling load estimation. Heating and cooling systems using solar, electrical and fossil energy. Air, water, and refrigerant distribution systems. Energy storage. System design project.

Term 2 May to August (9 credits)

Course	Home	Description
HPB 503 Whole Building Energy Modelling and Simulation (3), May June	MECH	Introduction to indoor space requirements. Heat and mass transfer through building envelopes. Climate. Fenestration, daylighting, solar energy. Introduction to major energy models. Modelling project. Low and net-zero building design.
HPB505 Capstone: Greening Existing Buildings (3), May-August	MECH / SALA/ CIVIL	Take an existing underperforming building and design a retrofit high performance energy system. Develop an energy model of the systems and then redesign the systems both in the digital and the physical components.
<i>APPP 504 Business Acumen for Technical Leaders (3), August</i>	<i>APSC/ Sauder</i>	<i>Opportunity to tackle real-world problems in high-performing teams and present targeted solutions for assessment. Managerial accounting; strategy and performance; market evaluation; operations management; negotiations and contract management; business-case building; valuation.</i>

Term 3 September to December (9 credits)

Course	Home	Description
<i>APPP 502 Sustainability and Leadership (1.5)</i>	<i>APSC/ Sauder</i>	<i>Skills for leading change that influences triple-bottom-line; sustainability, change agency systems thinking; awareness and perspective for engagement and communication; adaptive leadership; change dynamics; cases studies in organizational and social change.</i>
HPB 502 Regenerative Development (3)	SALA	What is regenerative design and how do we get there? Community energy systems. Measuring success.
HPB 506 Capstone: New Building Energy Systems Design (3)	MECH / SALA/ CIVIL	Working with a design team live, model and design a high performance energy system. Present and critique the outcome.
<i>Sauder Elective (1.5)</i>		

3.5. Supervision and Evaluation

Unlike the graduate-level research programs at UBC, a student in the program will not be assigned a single, dedicated supervisor, but will rather be supervised day-to-day in their work by the Pillar Directors and the APSC Professional Program Office. Coursework is evaluated through mini-projects, exams, homework assignments and in-class quizzes. For Pillars having a capstone project as a core component, supervision and evaluation will be provided by a professor and by sector-specific adjuncts and given a final mark by a UBC faculty member involved in the professional program based on the company's report and the student's final report and presentation. Expectations of students will be formalized through individual course syllabi.

3.6. Policies on Program Management and Assessment

The program will be administered under APSC. In delivering this new responsive model program it is essential that the Dean's Office, APSC Professional Program Office and Graduate Program Offices responsible for the Pillars collaborate and cooperate in an intimate fashion. The student should have access to all services and needs from within the same Faculty to ensure timely and comprehensive service of their academic and non-academic activities.

In parallel to internal reviews used to evaluate professional degrees conducted according to the APSC and UBC governance guidelines, the program will be evaluated and developed based on the recommendations of an Advisory Committee. This expert panel of outside professionals and academics will meet once per term. Committee membership will be approved by the Dean of APSC.

4. Calendar Statements [Follow in separate document]

5. Program Resource

5.1. Program Funding and Budget

The program will be delivered as fiscally sustainable. The budget is sensitive to enrolment numbers and has been calculated for an initial enrolment of 20, expected to increase to an enrolment of 41 by 2021. This enrolment is not expected to have any impact on enrolment in existing related programs.

[Removed for purposes of Curriculum.]

As this program is unique, and is directed at a sector where there is identified unmet need, impact on enrolment from existing programs or on opportunities for existing students is expected to be small.

5.2. Qualified Faculty

Courses will be taught by a combination of faculty from all departments and schools in APSC and also from other faculties at UBC; Visiting Professors, sector-specific adjuncts and guest lecturers will be involved.

5.3. Pillar Champions or Directors

Each Pillar has a 'Champion', or in some cases more than one champion, who was instrumental in establishing the value proposition for the Pillar and also in the design of the curriculum. The Champions for High Performance Buildings are Professor AnnaLisa Meyboom and Professor Steve Rogak. It is expected that these individuals will continue to have an instrumental role in the administration and oversight of the Pillar upon program launch, and may become Program Director (see 5.5).

5.4. Library Resources

The new courses for this program have been reviewed by the library. The Pillar courses will not require any additional Library support and the Platform courses requiring new resources will be funded by the APSC Dean's Office (see Appendix 2 & 3 and Appendix 7 Platform Proposal).

5.5. Administration

- **Program Directors**

The Directors for each Pillar will be appointed by the Dean of APSC. The Director will lead the implementation of the program and oversee its evolution, growth and position within APSC. As well as assuming teaching and research commitments, the program Director will represent the program on university committees. The program Director will also be expected to lead the community outreach component of the program. The Director will take an active role in developing the necessary community and stakeholder linkages to establish a long-term and wide range of collaborative industry partners. The Director will become the principal point of contact for community and stakeholder partners. The Director will report to the Head of the lead department or school as appointed by the Dean of APSC.

- **Program Manager**

It is expected that the suite of professional programs will be managed on a day-to-day basis by one or more centrally located program managers. This program manager would assist in: student recruitment, student enquiries, website development and maintenance, applications and admissions, timetabling, classroom scheduling, extra-curricular events and workshops, and addressing registration inquiries or issues. Support for admissions and records will also be provided by the APSC Dean's Office.

5.6. Space Requirements

Dedicated space for APSC Professional Programs is being developed within a new building to be completed in 2016. UBC has swing space available which will be used as interim accommodation until new facilities are ready.

5.7. Consultations with University Units

Consultation requests were sent to the following (see Appendix 3 and 4):

1. Libraries – fine arts and architecture section and engineering section as well as the architectural reading room
2. Mechanical Engineering Curriculum Committee
3. Faculty of Forestry Dean's Office
4. Faculty of Science Dean's Office
5. Sauder School of Business Dean's Office

5.8. Contact Information

Contact Person:

University of British Columbia, Faculty of Applied Science, Dean's Office
Elizabeth Croft, Associate Dean, Education & Professional Development
elizabeth.croft@ubc.ca 604-822-6614

6 Appendices Accompanying Pillar Proposals

[Removed for purposes of Curriculum; may be requested.]

Appendix 1 Budget Impact Form

Appendix 2 Curriculum

Appendix 3 Library Consultations

Appendix 4 Other Consultations

1. Mechanical Engineering Curriculum Committee
2. Sauder School of Business
3. Faculty of Science
4. Faculty of Forestry

Appendix 5 Overview of Related Pillars

Appendix 6 Market Research

1. M.Eng Alumni
2. Employers
3. Excel summary of data

Appendix 7 Platform Proposal



UBC Curriculum Proposal Form Change to Course or Program

Category: 1

<p>Faculty: Applied Science School: Architecture & Landscape Architecture Department: Mechanical Engineering Faculty Approval Date: March 3, 2016 Effective Session: Winter Year: 2016</p>	<p>Date: March 3, 2016 Contact Person(s): AnnaLisa Meyboom Phone: 604 822 6748 Email: ameyboom@sala.ubc.ca Contact Person(s): Steve Rogak Phone: 604 822 4149 Email: rogak@mech.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>Master of Engineering Leadership in High Performance Buildings</p> <p>Program Overview</p> <p>The Master of Engineering Leadership (M.E.L.) in High Performance Buildings (H.P.B.) is a program within the Faculty of Applied Science</p> <p>The M.E.L. in H.P.B. program develops Highly Qualified Personnel (H.Q.P.) for the rapidly evolving high performance green building sector. This building sector is seeing opportunities as the demand for sustainable buildings and cities increases. UBC has an exceptional group of researchers working on green and sustainable buildings, cities and integrated energy systems.</p> <p>This program is delivered by the Department of Mechanical Engineering and the School of Architecture and Landscape Architecture, both within the Faculty of Applied Science, in collaboration with the Faculty of Commerce and Business Administration (also known as the Sauder School of Business).</p>	<p>URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,0,0</p> <p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new master's program.</p> <p>Rationale: The creation of this program has been driven, in part, by strong interest from the external community (whereby British Columbia will see a high level of activity over the next few decades), in part by a desire to collaborate between the Departments and Schools in the Faculty of Applied Science and in part to raise UBC's profile and to attract students (both within Canada and abroad), and to collaborate internationally.</p> <p>The High Performance Buildings Pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green and high performance buildings sector. This sector is seeing opportunities in the sectors of consulting, construction, manufacturing and government as the standards for energy conservation are increased by governments at all levels internationally. UBC has an exceptional group of researchers working on development of the sustainable built environment, both from the engineering and the architecture/urban design perspectives.</p>



Admission Requirements

- **Applicants must hold an undergraduate credential in either engineering (or equivalent) OR a professional Master of Architecture.**
- **A minimum of 3 years relevant work experience.**

Applicants lacking these requirements may be required to complete additional coursework on the recommendation of the Program Director. Additionally, applicants with backgrounds only in architecture may be required to complete prerequisite coursework in engineering on the recommendation of the Program Director.

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 slightly less than 76% may be admitted if they have achieved 80% or higher in at least 12 credits (UBC-equivalency) of senior-level coursework in the prospective area of study.

The minimum admission requirement for applicants with degrees from outside North America is an overall degree average of 76% (UBC-equivalency).

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

The High-Performance Buildings program (HPB) pillar provides students with skills to recognize opportunities to improve building performance, and lead design or operational changes to do so, for new and existing buildings. Based on industry consultation, we have focused on energy issues, but the program recognizes that this must be integrated into a holistic understanding of buildings.

While governments at all levels are increasingly demanding reductions in energy from new buildings and the built environment generally, there is little formal education in how to meet these demands. Code requirements are becoming more and more stringent but in order to meet these demands, professionals in design, analysis, construction and manufacturing need to have the expertise to make these changes. This program aims to address this need from industry.



- **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 (Not general IELTS test)
- **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.

Applicants who do not meet both the academic and English language proficiency 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 Applied Science.

Lists of the required application documents are available on the [program](#)



[website](#) (hotlink to program website).

The Professional Masters office is responsible for collection and assessment of application documents.

Transfer Credit

- 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:**
 - 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.**

2. No more than 6 credits of transfer credit may be at the undergraduate level (300-/400-level).

3. The 12-credit (40%) restriction applies to students in UBC-approved Exchange Agreements established by the UBC Go Global Office.

4. Requests for transfer credit must be accompanied by a letter from the home graduate program addressed to the Dean



of the Applied Science. The letter must provide an academic justification for allowing the transfer credit on a course by course basis.

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.

Program Requirements

Degree completion requires completion of 30 credits. This includes 18 credits of Pillar courses and 12 credits of Platform courses, including 1.5 credits of approved electives from the Faculty of Commerce and Business Administration. (Platform refers to foundational coursework focused on the professional skills required for an experienced graduate to be an effective professional leader. These courses are common across many of the Applied Science Professional Master's programs. The Pillar contains the relevant technical material.)

The required core courses for the platform include:

APPP 501 (1.5) Project Management and Leadership

APPP 502 (1.5) Sustainability and Leadership

APPP 503 (1.5) Organizational Leadership

APPP 504 (3) Business Acumen for Technical Leaders

APPP 505 (3) Analytics and Interpretation for Applied Sciences

1.5 credits of approved Commerce and Business Administration electives.



The required core courses for the pillar include:

**HPB 501 (3) Green Building
Contemporary Practice
HPB 502 (3) Regenerative Development
HPB 503 (3) Whole Building Energy
Modelling and Simulation
HPB 504 (3) Building Energy Systems
Design
HPB 505 (3) Capstone: Greening
Existing Buildings
HPB 506 (3) Capstone: New Building
Energy Systems Design**

Each student's course plan must be approved by the M.E.L. in H.P.B. graduate program office. A complete list of the courses required for successful completion are available on the program website [<insert link>](#).

Financial Assistance

Financial assistance based on academic merit and financial need may be available.

Students should consult the M.E.L. in H.P.B. program website for more information.

Contact Information

**Faculty of Applied Science
Dean's Office
5000-2332 Main Mall
Vancouver, BC V6T 1Z4
Email : apscpp@apsc.ubc.ca
www.apsc.ubc.ca**

Faculty: Applied Science
School: Architecture and Landscape Architecture
Faculty Approval Date: March 3rd, 2016
Effective Session (W or S): W

Date: March 6, 2016
Contact Person: Prof AnnaLisa Meyboom
Phone: 6048226748
Email: ameyboom@sala.ubc.ca



Effective Academic Year: 2016	
Proposed Calendar Entry: HPB – High Performance Buildings	Present Calendar Entry: N/A Type of Action: Create new course code Rationale for Proposed Change: This new course code is being created to identify the new courses within the Master of Engineering Leadership (MEL) Pillar in High Performance Buildings.
Proposed Calendar Entry: HPB 501 (3) Green Building Contemporary Practice Enhanced building environmental performance and the integration of green building principles, strategies and technologies. Equivalency: ARCH 574.	Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building. It was previously taught for several years as a seminar (ARCH 573A) and is now being set up as a required course in this MEL as well as a regularly offered class in SALA (ARCH 574). HPB 501 develops the understanding of all aspects of green design of buildings so that the HPB students understand and can participate in integrated design issues related to the whole building. A central issue of the course is the integration of green performance requirements and technologies into buildings in an effective, economic and elegant manner. Credit is granted for one of HPB 501 or ARCH 574.
Proposed Calendar Entry: ARCH 574 (3) Green Building Contemporary Practice Enhanced building environmental performance and the integration of green building principles, strategies and technologies.	Present Calendar Entry: N/A Type of Action: Create new course Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building. It was previously taught for several years as a seminar (ARCH 573A) and is now being



<p>Equivalency: HPB 501.</p>	<p>set up as a required course in the MEL in HPB as well as this regularly offered class in SALA (ARCH 574).</p> <p>ARCH 574 develops the understanding of all aspects of green design of buildings so that the HPB students understand and can participate in integrated design issues related to the whole building. A central issue of the course is the integration of green performance requirements and technologies into buildings in an effective, economic and elegant manner.</p> <p>Credit is granted for one of HPB 501 or ARCH 574.</p>
<p>Proposed Calendar Entry:</p> <p>HPB 502 (3) Regenerative Development</p> <p>The relationship between human and natural systems in the context of regenerative design. Provides an understanding of how regenerative approaches differ from green design and how they can offer new insights and directions for design.</p> <p>Equivalency: ARCH 575</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building. It was previously taught for several years as a seminar (ARCH 573D) and is now being set up as a required course in this MEL as well as a regularly offered class in SALA (ARCH 575).</p> <p>The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.</p> <p>This particular course looks at the future of regenerative design – a step beyond sustainable, this approach focuses on learning from natural systems and designing your development to give back rather than take from the environment. At the end of this course students will be</p>



	<p>able to understand the emerging notion of regenerative design and its differences with current green and sustainable approaches to building design. As well, they will gain a critical understanding of the potential lessons for building design that can be legitimately drawn from natural systems and processes.</p> <p>Credit is granted for one of HPB 502 or ARCH 575.</p>
<p>Proposed Calendar Entry:</p> <p>ARCH 575 (3) Regenerative Development</p> <p>The relationship between human and natural systems in the context of regenerative design. Provides an understanding of how regenerative approaches differ from green design and how they can offer new insights and directions for design.</p> <p>Equivalency: HPB 502</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building. It was previously taught for several years as a seminar (ARCH 573D) and is now being set up as a required course in this MEL as well as a regularly offered class in SALA.</p> <p>The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.</p> <p>This particular course looks at the future of regenerative design – a step beyond sustainable, this approach focuses on learning from natural systems and designing your development to give back rather than take from the environment. At the end of this course students will be able to understand the emerging notion of regenerative design and its differences with current green and sustainable approaches to building design. As well, they will gain a critical understanding of the potential lessons for building design that can be</p>



	<p>legitimately drawn from natural systems and processes.</p> <p>Credit is granted for one of HPB 502 or ARCH 575.</p>
<p>Faculty: Applied Science Department: Mechanical Engineering Faculty Approval Date: March 3rd, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: March 6, 2016 Contact Person: Steve Rogak Phone: 604-822-4149 Email: rogak@mech.ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>HPB 503 (3) Whole Building Energy Modelling and Simulation</p> <p>Modelling energy in a high performance building. Introduction to indoor space requirements. Heat and mass transfer through building envelopes. Climate. Fenestration, daylighting, solar energy. Introduction to major energy models. Modelling project.</p> <p>Credit is granted for one of HPB 503 or MECH 474.</p> <p>Prerequisites: Mech 375 or equivalent and Mech 327 or equivalent</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building.</p> <p>The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.</p> <p>This course is a core component in the MEL in High Performance Buildings. It includes some material from the Mech 473 as it has been taught in the last 10 years, but adds major new material on energy and flow modelling. It is designed to be complimentary to Mech 473 and HPB504. This course introduces the methods used to predict the heating, cooling, ventilation demands of a building that are needed to design the building energy services, with an emphasis on minimizing energy consumption.</p> <p>Credit is granted for one of HPB 503 or MECH 474.</p>
Proposed Calendar Entry:	Present Calendar Entry: N/A



HPB 504 (3) Building Energy Systems Design

Designing the energy system for a high performance building. Heating, cooling and ventilation load estimation. Heating and cooling using solar, electrical and chemical energy. Air, water, and refrigerant distribution systems. Energy storage. System design project. Design performance assessment.

Equivalency: MECH 473.

Type of Action: Create new course

Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Program in High Performance Building.

The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.

This course introduces the indoor thermal, acoustical, air quality and lighting conditions needed for human well-being. These conditions, combined with simplified building simulation, lead to the hourly design requirements of the heating, ventilation and air-conditioning (HVAC) systems of a building. Fundamentals of HVAC systems are introduced. Using this foundation, students will develop and evaluate (relevant to major building performance rating systems) schematic designs, considering the best available passive and active systems.

The content of this course is the same (except for project and assessment) as Mech 473. The reason for having two courses (which may share most lectures in practice) is to accommodate the two distinct cohorts (MEL students and Mech undergraduate students).

Credit is granted for one of HPB 504 or MECH 473.

Faculty: Applied Science
School: Architecture and Landscape Architecture
Faculty Approval Date: March 3rd, 2016
Effective Session (W or S): W

Date: March 6, 2016
Contact Person: Annalisa Meyboom
Phone: 604 822 6748
Email: ameyboom@sala.ubc.ca



Effective Academic Year: 2016	
<p>Proposed Calendar Entry:</p> <p>HPB 505 (3) Capstone: Greening Existing Buildings</p> <p>Students will analyze the performance and design data of an existing building and propose design changes that will improve performance, considering the real priorities of the client, a building owner or operator.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building.</p> <p>The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.</p> <p>This is the first capstone in the HPB program which asks students to redesign the energy system for an existing building with underperforming energy characteristics. Faculty and industry advisors will guide the student. The use of an existing building allows the student to focus on demonstrating their skills of modelling and designing without a very complex design team (which happens in the second capstone in HPB 506). The purpose of the project is to demonstrate command of the material learned in the core and electives courses taken. Students will do so by solving a substantial practical problem in a realistic setting. The focus will be to understand a significant energy issue in a large building, develop a solution to the problem, then modelling the system, and finally design the building's mechanical system to translate the model into built form.</p>
<p>Proposed Calendar Entry:</p> <p>HPB 506 (3) Capstone: New Building Energy Systems Design</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This</p>



Students will take a building under design and work with the designers towards a high performance energy system. The project will be a proposed high performance building with a client, a design team, and energy performance objectives.

new course is being created within the Master of Engineering Leadership (MEL) Pillar in High Performance Building.

The High Performance Building pillar focuses on developing Highly Qualified Personnel (HQP) needs for the rapidly evolving green building sector. The curriculum is designed for the student to understand the principles of integrated design of the energy systems for high performance green buildings.

This particular course allows the students to move from the first capstone, which is an existing building, into the more complex design of a building which is being designed by a multidisciplinary team and working on the whole building and its integrated systems in the design phase. Faculty and industry advisors will guide the student.

The purpose of the project is to demonstrate command of the material learned in the core and electives courses taken. Students will do so by solving a substantial practical problem in a realistic setting. The focus will be to understand the issues of working with an interdisciplinary team on a large building. The project will be to participate with the architect and other engineers in the design of the energy system component (which will work synergistically with other building parts), then model the system, and finally design the building's mechanical system to translate the model into built form.



18 May 2016

To: Vancouver Senate

From: Senate Curriculum Committee

Re: May 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, revised courses, and revised program brought forward by the faculties of Applied Science, Arts, Commerce and Business Administration, Forestry, Graduate and Postdoctoral Studies (Arts), Law, and Medicine be approved.”*

Respectfully submitted,

Dr. Kenneth Baimbridge

Senate Curriculum Committee



FACULTY OF APPLIED SCIENCE

Revised program

Applied Science>Bachelor of Applied Science>Civil Engineering

FACULTY OF ARTS

New courses

ARTH 324 (3) Northern European Art and Culture II (1600-1700); ARTH 350 (3) Grounding the Islamic Image; ARTH 450 (3) Seminar in Art in the Islamic World; ARTH 410 (3) Seminar in African Art; ARTH 479 (3) Performance Actions and Approaches; VISA 479 (3) Performance Actions and Approaches; VISA 375 (3) Artists in Society; ASIA 301 (3) Buddhism in the Modern Era; ASIA 303 (3) Mahayana Buddhism; ASIA 306 (3) Esoteric Buddhism; ASIA 374 (3) Imagining Punjab; CNTO 311 (3) Basic Cantonese for Mandarin Speakers; PERS 400 (3) Persian Short Story for Native and Heritage Speakers; FNIS 260 (3/6)d Applied Learning: Collaborative Place-Based Research; FNIS 360 (3/6)d Applied Learning: Collaborative Place-Based Research; PORT 222 (3) Introduction to the Analysis of Portuguese and Brazilian Cultures; PORT 405 (3-6)d Studies in Portuguese and Brazilian Culture; MUSC 420 (3) Music Technology Capstone Project; SOCI 101 (3) Social Interaction and Culture; SOCI 102 (3) Inequality and Social Change; SOCI 469 (3) Queer Theory and Politics

FACULTY OF COMMERCE AND BUSINESS ADMINISTRATION

New and revised courses

BUSI 485 (3) Taxes and Decision Making; COMM 452 (3) Taxes and Decision Making

FACULTY OF FORESTRY

New courses

HGSE 310 (3) First Nations and Canada: (Re)writing History; HGSE 311 (3) Law and Governance: Indigenous and European Traditions; HGSE 312 (3) Perspectives on Reconciliation; HGSE 313 (3) Reconciliation and Resource Management; HGSE 314 (3) Reconciliation and Communities

FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

New course

Arts

ARTH 550 (3) Studies in Art in the Islamic World

FACULTY OF LAW

New and revised courses

LAW 382 (3) Health Law; LAW 434 (3) Medical Negligence Law; LAW 442 (3) Condominium Law

FACULTY OF MEDICINE

New course

SPPH 381 (1.5/3)d Selected Topics



UBC Curriculum Proposal Form Change to Course or Program

Category: 1

Faculty: Applied Science Department: Civil Engineering Faculty Approval Date: March 3, 2016 Effective Session (W or S): W (Term 1) Effective Academic Year: 2016	Date: February 1, 2016 Contact Person: Michael Isaacson Phone: 604-822-4338 Email: isaacson@apsc.ubc.ca
Proposed Calendar Entry: <p>The Department of Civil Engineering offers a program leading to the Bachelor of Applied Science in Civil Engineering. Interested students should apply for the Civil Engineering program after completing first year engineering, or after second year if applying from another institution.</p> <p>The second-year program in Civil Engineering requires all students to take the course CIVL 201 (Civil Engineering I) in the first term following entry to the program. The course commences with a communication skills module that is delivered over the two weeks before the normal start of Term 1 classes at UBC. Attendance during the two-week period is mandatory for those students who do not meet specified requirements relating to marks in ENGL 112 or equivalent: visit CIVL 201 for additional information and instructions. Due to the early start-date, affected students who plan to live on campus in UBC Housing are required to apply for early arrival.</p> <p>NOTE: The intake of students into the Environmental Engineering Option has been suspended effective 2016.</p>	URL: http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,195,272,37 Present Calendar Entry: <p>The Department of Civil Engineering offers a program leading to the Bachelor of Applied Science in Civil Engineering. Interested students should apply for the Civil Engineering program after completing first year engineering, or after second year if applying from another institution. Within the Civil Engineering program, students may register in an Environmental Engineering Option that begins in third year. This is a modification of the regular Civil Engineering program in which environmental engineering courses replace some regular program courses in the third and fourth years of study.</p> <p>NOTE: The intake of students into the Environmental Engineering Option has been suspended effective 2016.</p>



Prospective students should be aware that an enrolment limit may apply to the program. For further information visit [Civil Engineering](#).

...

Prospective students should be aware that an enrolment limit may apply to the program, ~~and to the option~~. For further information Visit [Civil Engineering](#).

...

Type of Action: Modify Entry

Rationale for Proposed Change:

1. Remove reference to the Environmental Engineering Option that is no longer available to incoming students.
2. Since CIVL 201 entails a significant communications skills component and also focuses on team-based activities, the lower standards of English of a small cohort of students are impacting negatively student learning and performance for the entire class. After considering several options, it has been determined that this additional two-week module for some students should provide them with optimum support, so as to assure improved learning and performance for all students in the course.



UBC Curriculum Proposal Form

Change to Course or Program

Category: 1

Faculty: Arts Department: Art History & Visual Art Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016	Date: October 28, 2014 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca
Proposed Calendar Entry: ARTH 324 (3) Northern European Art and Culture II (1600-1700) The role of visual art within Early Modern court cultures, commercial urban centers, and emergent nation states.	Present Calendar Entry: NA Type of Action: Create new course. Rationale for Proposed Change: For 2015 W ARTH 328 was cancelled when it should have been re-numbered to ARTH 324. Developing research in the field of Early Modern art (formerly Renaissance and Baroque) has highlighted the need for courses that investigate the impact and spread of visual themes and genres from non-Italian perspectives and broader timeframes. This course will explore the comparison of the art and architecture of urban and court cultures in 17 th century Flanders, Netherlands, France, and England. Topics discussed include royal and court, individual and civic portraiture of the Dutch middle classes, genre painting and the marketing of 'low life', the production of the domestic sphere in Dutch everyday life scenes, the rise of landscape, the use of architecture as an expression of royal power, as well as urban and court spectacle in Antwerp, London, and Versailles. Please Note: ARTH 323 has an active category 2 proposal which should reach Senate Curriculum Offices in late February. This proposal requests the title of ARTH 323 to change to ARTH 323 (3) Northern European Art and Culture I (1400 – 1600)
Proposed Calendar Entry:	Present Calendar Entry: N/A Type of Action: Create new courses.



<p>ARTH 350 (3) Grounding the Islamic Image</p> <p>Contextualizing the complex language of images in the Islamic world.</p> <p>Proposed Calendar Entry:</p> <p>ARTH 450 (3) Seminar in Art in the Islamic World</p> <p>Key debates in the field of art and architecture in the Islamic World.</p>	<p>Rationale for Proposed Change: ARTH 350: This course will meet a long-standing need to develop the undergraduate course offerings in art in the Islamic World. This course focuses primarily on the visual arts, whereas ARTH 351 will involve a more substantive architectural component. ARTH 350 will be more focused and case-based.</p> <p>ARTH 450: This course will meet a long-standing need for an in-depth undergraduate research seminar focused on art in the Islamic World. This proposal is linked to a Category 2 proposal updating BA Degree requirements.</p>
<p>Proposed Calendar Entry:</p> <p>ARTH 410 (3) Seminar in African Art</p> <p>Key debates in the art of Africa and the African diaspora. <i>This course is not eligible for Credit/D/Fail grading.</i></p>	<p>Present Calendar Entry: N/A Type of Action: Create new course.</p> <p>Rationale for Proposed Change: This course will meet a long-standing need for an in-depth undergraduate research seminar focused on African art and diaspora.</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">X</div> <p>Not available for Cr/D/F grading</p> <p>Rationale for not being available for Cr/D/F: AHVA feels that Cr/D/F is not appropriate for small, research-intensive seminars that are intended for Honors/Major students in the discipline or students from like disciplines who seek to expand their research skills.</p>
<p>Faculty: Arts Department: Art History & Visual Art Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: November 1, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>ARTH 479 (3) Performance Actions and Approaches</p> <p>Advanced performance art practices and research methodologies. <i>This course is not eligible for Credit/D/Fail grading.</i></p>	<p>Present Calendar Entry: N/A Type of Action: Create new courses with equivalencies to each other.</p> <p>Rationale for Proposed Change: This course has been run as a Special Topics cross list between ARTH and VISA for the past two winter sessions. Student interest is</p>



<p>Equivalency: VISA 479.</p> <p>VISA 479 (3) Performance Actions and Approaches</p> <p>Advanced performance art practices and research methodologies. <i>This course is not eligible for Credit/D/Fail grading.</i></p> <p>Equivalency: ARTH 479.</p>	<p>high, but they often realize too late the unique nature of this hybrid course. Formalizing the course will allow it to be more visible to the students and support greater cross-subject study for our students.</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading</p> <p>Rationale for not being available for Cr/D/F: AHVA feels that Cr/D/F is not appropriate for small, research-intensive seminars that are intended for Honors/Major students in the discipline or students from like disciplines who seek to expand their research skills.</p>
<p>Faculty: Arts Department: Art History & Visual Art Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: November 21, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>VISA 375 (3) Artists in Society</p> <p>Exploring artistic practice through community-engaged partnerships and critical study.</p> <p>Prerequisite: Restricted to 3rd and 4th year students majoring in Visual Arts or Art History.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course.</p> <p>Rationale for Proposed Change: To reflect professional practice curriculum of Community Engaged Learning component in an upper-level, program-focused course where students can actively combine experiential learning with critical research and study.</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading</p> <p>Rationale for not being available for Cr/D/F: Community engaged placements are limited and students who are taking this course to support program learning are the intended participants.</p>
<p>Faculty: Arts Department: Asian Studies Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: November 17, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p>



<p>ASIA 301 (3) Buddhism in the Modern Era</p> <p>Buddhism from the nineteenth century to present day with special emphasis on its history and character in local settings, including specific traditions such as Tibetan Nyingma and Japanese Zen, as well as the development of a modern and global “Buddhism.”</p>	<p>Rationale for Proposed Change: The Department of Asian Studies does not currently offer this kind of course and we are creating it to fulfill demand. The Department will also be receiving funding from the Sheng Yen Foundation Postdoctoral Fellowship in East Asian Buddhism over the next several years that would be involved in the sponsorship of a Postdoctoral student for the teaching of new courses on Buddhism. This is one of those courses.</p>
<p>Proposed Calendar Entry:</p> <p>ASIA 303 (3) Mahayana Buddhism</p> <p>Historical and philosophical development of Mahayana Buddhism.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p> <p>Rationale for Proposed Change: The Department of Asian Studies does not currently offer this kind of course and we are creating it to fulfill demand. The Department will also be receiving funding from the Sheng Yen Foundation Postdoctoral Fellowship in East Asian Buddhism over the next several years that would be involved in the sponsorship of a Postdoctoral student for the teaching of new courses on Buddhism. This is one of those courses. Currently, the Department only offers an introductory course on Buddhism and its schools in a general sense. The creation of three new courses, to which ASIA 303 is one of, will allow the Department to meet student demand for courses focused on different schools of Buddhism (Theravada, Mahayana, Esoteric). This will allow a more in-depth study of its history and philosophical development.</p>
<p>Proposed Calendar Entry:</p> <p>ASIA 306 (3) Esoteric Buddhism</p> <p>Overview of Buddhism’s rich and complex esoteric traditions in the Himalayan region and South, Southeast, and East Asia, with particular emphasis</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p> <p>Rationale for Proposed Change: The Department of Asian Studies does not currently offer this kind of course and we are creating it to fulfill demand. The Department will also be receiving funding</p>



<p>on texts, commentaries, and practices from a variety of traditions, locales, and time periods.</p>	<p>from the Sheng Yen Foundation Postdoctoral Fellowship in East Asian Buddhism over the next several years that would be involved in the sponsorship of a Postdoctoral student for the teaching of new courses on Buddhism. This is one of those courses. Currently, the Department only offers an introductory course on Buddhism and its schools in a general sense. The creation of three new courses, to which ASIA 306 is one of, will allow the Department to meet student demand for courses focused on different schools of Buddhism (Theravada, Mahayana, Esoteric). This will allow a more in-depth study of its constellation of ideas and practices.</p>
<p>Proposed Calendar Entry:</p> <p>ASIA 374 (3) Imagining Punjab</p> <p>The cultural and linguistic region of Punjab as it has been imagined in different times and places, in South Asia and beyond, in literature, scholarship, film, and popular culture.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: Material on Punjab is covered in part in a number of Asian Studies courses (such as in ASIA 376, a history of the Sikh tradition, and ASIA 358, a class on medieval Indian literature in translation). None of these courses, however, allows for comprehensive investigation of this complex cultural and linguistic region across the national and religious boundaries that divide it today: between Pakistan and India, each of which contains part of the region, and between South Asia and the diaspora communities of both Punjabs. Classes on "India" are too broad to address the specifics of Punjab as a region in any detail, and classes on individual religions from the region (e.g. Sikhism or Islam) only reinforce modern political and religious divisions. This class will allow for exploration of Punjabi cultural and linguistic formations across national boundaries, as well as across the religious divides that were the basis for the separation of the region into two separate modern nation-states. UBC has a large</p>



	<p>South Asian student population that is overwhelming of Punjabi heritage. This class will assist them in understanding the complex history of this region and the multiple geographical, cultural, and linguistic mappings that comprise it, here in Canada as well as in South Asia. It will enrich the student program for those taking classes such as "South Asia Beyond South Asia" (ASIA 309), as well as provide crucial background for the new course "Documenting Punjabi Canada" (ASIA 475), which focuses on the Punjabi Canadian community.</p>
<p>Faculty: Arts Department: Asian Studies Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: November 4, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>CNTO 311 (3) Basic Cantonese for Mandarin Speakers</p> <p>Basic oral skills in Cantonese for advanced or heritage level speakers of Mandarin with no background in Cantonese. Mandarin proficiency level must be beyond CHIN 300 levels.</p> <p><i>Prerequisite:</i> One of CHIN 233, CHIN 234, CHIN 243, CHIN 244.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p> <p>Rationale for Proposed Change: Due to substantial interest and requests from Mandarin speakers learning Cantonese, it is proposed to have one section of Basic Cantonese with curriculum specifically tailored to the language-learning needs of Mandarin speakers.</p> <p><input checked="" type="checkbox"/> Not available for Cr/D/F grading</p> <p>Rationale for not being available for Cr/D/F: Asian Studies Language Courses are not available for Credit/D/Fail due to the amount of partner work involved. Furthermore students would not be able to progress through the language as we require a minimum 60% to move to the next class.</p>
<p>Faculty: Arts Department: Asian Studies Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: October 30, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
Proposed Calendar Entry:	Present Calendar Entry: N/A



<p>PERS 400 (3) Persian Short Story for Native and Heritage Speakers</p> <p>Literary works from mid-19th century to present. Restricted to native or heritage speaker of Persian.</p>	<p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: This course is designed for students for whom Persian is their native or heritage language. This course will provide students with the opportunity to expand their existing proficiency of Persian and by developing their reading and writing skills through short story. With the ever-increasing number of native and heritage speakers of Persian enrolled in UBC, it is necessary to provide them the opportunity to improve their reading comprehension.</p>
<p>Faculty: Arts Department: First Nations and Indigenous Studies Program Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: August 16, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>FNIS 260 (3/6) d Applied Learning: Collaborative Place-Based Research</p> <p>Topic and community/location of instruction will vary from year to year. Applied, intense delivery experiential learning course designed and implemented in collaboration with faculty and Indigenous community partner(s). Examines the importance of Indigenous place-based research and learning for student and community empowerment. <i>This course is not available for Cr/D/Fail.</i></p> <p>Prerequisite: Permission of the instructor.</p> <p>FNIS 360 (3/6) d Applied Learning: Collaborative Place-Based Research</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course. Department to manage registration.</p> <p>Rationale for Proposed Change:</p> <p>FNIS 260 is designed to complement the First Nations and Indigenous Studies Program's demonstrated strength in fostering collaborative, place-based research and learning. The course credit will be accessible to junior students associated with the Indigenous host community or location around which the course is built. FNIS 260 will provide community members with the option of gaining UBC credit should they decide to pursue higher education.</p> <p>FNIS 360 is designed to complement the First Nations and Indigenous Studies Program's demonstrated strength in fostering collaborative, place-based research and learning. The course is designed to supplement and deepen the</p>



Topic and community/location of instruction will vary from year to year. Applied, intense delivery experiential learning course designed and implemented in collaboration with faculty and Indigenous community partner(s). Examines the importance of Indigenous place-based research and learning for student and community empowerment. *This course is not available for Cr/D/Fail.*

Prerequisite: One of FNSP 200, FNIS 210, FNSP 210, FNIS 220, FNSP 220. And permission of instructor.

knowledge and experience that students gain in our fourth year practicum research course, FNIS 400. FNIS 360 will provide students practical learning experiences informed by Indigenous knowledge, theory, and practices delivered in a community environment. FNIS 360 is meant to provide an upper-level credit option for students interested in extending their learning beyond the campus and into community.

A clear fit with the UBC plan, *Place and Promise*, and building upon the pathways envisioned in UBC's Aboriginal Strategic Plan, FNIS 260 will foster student research capacity, cross-cultural understanding, and community and Indigenous peoples' engagement. FNIS 260 will build on UBC's and FNIS's stated commitment to create a research and learning environment that encourages knowledge creation derived through collaborative relations within and between Indigenous students, scholars and communities.

Community-based research courses are amongst the most exciting examples of 'E3': Educational Enrichment Experiences. Such courses aim to re-contextualize students' learning by taking them from the classroom to community and back again, thus building their civic capacity through cross-cultural community dialogue and education.

X Not available for Cr/D/F grading

Rationale for not being available for Cr/D/F: FNIS 200/300/400/500 level courses are not offered for Cr/D/F. We wish to keep this proposal consistent with our other courses.



<p>Faculty: Arts Department: French, Hispanic and Italian Studies Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: November 1, 2015 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>PORT 222 (3) Introduction to the Analysis of Portuguese and Brazilian Cultures</p> <p>Critical analysis of different cultural genres, including music, film and visual art through the study of selected Portuguese and Brazilian texts. This course is taught in English.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p> <p>Rationale:</p> <p>Through the generosity of the Brazilian government, the Department of French, Hispanic and Italian Studies now has the teaching resources to offer a wider variety of Portuguese courses, including a course in Portuguese and Brazilian cultures, similar to our increasingly successful SPAN 222 (Introduction to the Study of Hispanic Cultural Texts).</p> <p>To be taught in English, PORT 222 will provide an opportunity, not only for students of Portuguese, but also for students of French, Italian and Spanish language and literature, for those interested in other literatures and even for students in relevant fields of the social sciences, including Latin American Studies, Modern European Studies or International Relations, to become familiar with the culture of Portugal and of Brazil.</p> <p>At the same time it will permit these students to learn and to apply the basic concepts and terminology of cultural studies as they relate to the particular genres studied, and will prepare them for more advanced study not only of the cultures of the Portuguese-speaking world, but also of other cultures of particular interest to them.</p>
<p>Proposed Calendar Entry:</p> <p>PORT 405 (3-6) d Studies in Portuguese and Brazilian Culture</p> <p>Selected topics on Portuguese and Brazilian Culture. Please refer to section</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course</p> <p>Rationale:</p> <p>The Department of French, Hispanic and Italian Studies already offers a variable-credit course in Portuguese and Brazilian</p>



<p>details for up to date course offering information. This course is taught in English.</p>	<p>Literature (PORT 392), and the increased teaching resources now made available by the generosity of the Brazilian government will permit us to create a companion course in cultural studies.</p> <p>We expect that PORT 222, the introduction to Portuguese and Brazilian culture that we are also proposing at this time, will inspire at least some of its students to consider further study in this field, and PORT 405 will allow us to respond to that desire.</p> <p>With no prerequisite, however, PORT 405 will also be open, independently of 222, to the same groups of students that we hope to attract to the 200-level course: Portuguese language learners, our own students of French, Italian and Spanish language and literature, students of other literatures and even students in the social sciences whose academic interests include cultural studies in general or who are simply drawn to the topic for a given year</p> <p>Since the various backgrounds likely to draw students to one course in Portuguese or Brazilian cultural studies may equally draw them to another, and since we have a long-standing tradition, in all our languages, of offering variable-credit courses, we propose that PORT 405, like the existing PORT 392, be available for variable credit of 3-6 d.</p>
<p>Faculty: Arts Department: Music Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: January 7, 2016 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>MUSC 420 (3) Music Technology Capstone Project</p> <p>Supervised individual music technology project on an approved topic. Restricted to students in the Minor in Applied Music Technology and permission of Instructor.</p>	<p>Present Calendar Entry: N/A Type of Action: Create a new course.</p> <p>Rationale for Proposed Change: This course is already offered under the generic course code MUSC 402. It is a required course for the Minor in Applied Music Technology.</p>



<p><i>This course is not eligible for Credit/D/Fail grading.</i></p> <p>Prerequisite: MUSC 419.</p>	<p>Prerequisites: SISC block is MUSC 419. Restrictions will be managed through Department via scheduling.</p> <p>X Not available for Cr/D/F grading</p> <p>Rationale for not being available for Cr/D/F: Required course for all students who take it.</p>
<p>Faculty: Arts Department: Sociology Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016</p>	<p>Date: January 2016 Contact Person: Lois Nightingale Phone: 604-822-0048 Email: arts.curriculum@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>SOCI 101 (3) Social Interaction and Culture</p> <p>Culture, identity, social interaction, relationships and socialization. Credit will be granted for only one of SOCI 101 or SOCI 100.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course.</p> <p>Rationale for Proposed Change: Due to continuing student confusion and because the SISC does not recognize alpha letters attached to courses, we are introducing two new course numbers, SOCI 101 (3) and SOCI 102 (3) to replace the use of "A, B, C" for SOCI 100. Even though there are new course numbers, these two courses will be offering the same academic material as previously and will be equivalent to SOCI 100 (6). This suite of three introductory Sociology courses will allow students to complete one six-credit intro course (advantages: one instructor, one textbook, year-long writing projects) or two three-credit intro courses (main advantage: more flexible scheduling).</p>
<p>Proposed Calendar Entry:</p> <p>SOCI 102 (3) Inequality and Social Change</p> <p>Inequality, institutions, social structure and social change. Credit will be granted for only one of SOCI 102 or SOCI 100.</p>	<p>Present Calendar Entry: N/A Type of Action: Create new course.</p> <p>Rationale for Proposed Change: Due to continuing student confusion and because the SISC does not recognize alpha letters attached to courses, we are introducing two new course numbers, SOCI 101 (3) and SOCI 102 (3) to replace the use of "A, B, C" for SOCI 100. Even though there are new course numbers, these two courses will</p>



	<p>be offering the same academic material as previously and will be equivalent to SOCI 100 (6).</p> <p>This suite of three introductory Sociology courses will allow students to complete one six-credit intro course (advantages: one instructor, one textbook, year-long writing projects) or two three-credit intro courses (main advantage: more flexible scheduling).</p>
<p>Proposed Calendar Entry:</p> <p>SOCI 469 (3) Queer Theory and Politics</p> <p>Empirical expressions and political possibilities of queer theory.</p> <p><i>Prerequisite: SOCI 369.</i></p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course.</p> <p>Rationale for Proposed Change: This is an advanced sexualities course designed for students who have completed SOCI 369 Sociology of Sexualities, one of our most popular undergraduate courses and currently the only course we offer on sexuality. Queer theory is a framework that emerged primarily in the humanities. It argues that all identity labels are historically specific and thus malleable, unstable, and fluid. In their quest to “denaturalize” and “disrupt” a category-driven world, theorists imagine alternative realities, including a world in which we eliminate all categories, a world in which we expand categories beyond binaries, or a world in which we reconceptualize the categories. This course is intended to bring humanist queer theory frameworks into conversation with empirical social science.</p>



UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

Faculty: Commerce and Business Administration Faculty Approval Date: January 19, 2016 Effective Session: S Effective Academic Year: 2016	Date: January 14, 2016 Contact Person: Kin Lo; J G McIntosh Phone: 2-8255 Email: kin.lo@sauder.ubc.ca ; graham.mcintosh@sauder.ubc.ca
Proposed Calendar Entry: BUSI 485 (3) Taxes and Decision Making Analysis of business and financial decisions in the presence of taxes. This course is not eligible for Credit/D/Fail grading. Equivalency: COMM 452.	Present Calendar Entry: N/A Type of Action: Create a BUSI course for subject material of COMM 452. (Note: BUSI 452 course number is already in use.) Rationale for Proposed Change: Students in the Diploma in Accounting Program (DAP) are restricted from enrolling in Bachelor of Commerce courses. Creating BUSI 485 will allow DAP students access to the COMM 452 course content (subject to availability of seats). This course would be useful for students who are pursuing a career in accountancy and, in particular, taxation. Since COMM 452 is already being offered, creating this cross-listing will have no impact on the library. Similarly, there will be no negative budgetary impact; if anything, the impact will be positive since the cross-listing will use up seats unfilled by students in the Bachelor of Commerce. In 2016W, there were 2 unfilled seats out of 46 available. <input checked="" type="checkbox"/> Not available for Cr/D/F grading Rationale for not being available for Cr/D/F: The Diploma in Accounting Program is a post-baccalaureate program, not an undergraduate program, so the grading option does not apply.
Proposed Calendar Entry: COMM 452 (3) Taxes and Decision Making Analysis of business and financial decisions in the presence of taxes. <i>This course is not eligible for Credit/D/Fail grading.</i> Equivalency: BUSI 485.	Present Calendar Entry: N/A COMM 452 (3) Taxes and Decision Making Analysis of business and financial decisions in the presence of taxes. <i>This course is not eligible for Credit/D/Fail grading.</i> Type of Action: Create course equivalency. Rationale for Proposed Change: New BUSI 485 (3) course is equivalent to COMM 452 (3).

UBC Curriculum Proposal Form
Change to Course or Program

Category: 1

Faculty: Forestry Department: Forest Resources Management Faculty Approval Date: Nov. 5, 2015 Effective Session (W or S): W Effective Academic Year: 2016	Date: October 29, 2015 Contact Persons: Dr Peter Marshall Phone: 604-822-4918 Email: peter.marshall@ubc.ca
Proposed Calendar Entry: HGSE 310 (3) First Nations and Canada: (Re)writing History A survey of the history of Indigenous peoples in relation to the Canadian colonial state contrasting the Indigenous historical experience with conventional accounts of Canadian history. <i>Corequisites:</i> All of HGSE 311, 312, 313, 314.	Present Calendar Entry: N/A Type of Action: Create new course Rationale: See the background material (following) for a general rationale for this package of five courses. The first four courses [HGSE 310 (First Nations and Canada: (Re)writing History); HGSE 311 (Law and Governance: Indigenous and European Traditions); HGSE 312 (Perspectives on Reconciliation); and HGSE 313 (Reconciliation and Resource Management)] are designed to be offered as sequential 3 week modules, with each course building on the learning objectives of the previous course. The fifth course [HGSE 314 (Reconciliation and Communities)] extends throughout the term and provides a platform for community-based activities to support the learning activities of the other four courses. HGSE 310 and 311 are intended to provide the historical and legal backgrounds, respectively, for an exploration of notions of reconciliation and restitution that have emerged in Canada (HGSE 312). HGSE 313, the culmination of the sequential module courses, then focuses on how these notions are shaping natural resources management.
Proposed Calendar Entry: HGSE 311 (3): Law and Governance:	Present Calendar Entry: N/A Type of Action: Create new course

<p>Indigenous and European Traditions</p> <p>Background on sources of Aboriginal and Canadian law; detail on section 35 of the Constitution Act; a review of relevant Canadian case law; insight on the importance of international law; and literature on governance. <i>Corequisites:</i> All of HGSE 310, 312, 313, 314.</p>	<p>Rationale: See the rationale for HGSE 310.</p>
<p>Proposed Calendar Entry:</p> <p>HGSE 312 (3): Perspectives on Reconciliation</p> <p>Notions of reconciliation and restitution that have emerged in Canada across space and time; key principles, discourses, legal and Constitutional mechanisms, actions, and actors. <i>Corequisites:</i> All of HGSE 310, 311, 313, 314.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale: See the rationale for HGSE 310.</p>
<p>Proposed Calendar Entry:</p> <p>HGSE 313 (3): Reconciliation and Resource Management</p> <p>Relationships and reconciliation processes between First Nations and other governments in the context of land and sea governance. <i>Corequisites:</i> All of HGSE 310, 311, 312, 314.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale: See the rationale for HGSE 310.</p>
<p>Proposed Calendar Entry:</p> <p>HGSE 314 (3): Reconciliation and Communities</p> <p>In-depth exploration of the communities of Haida Gwaii through community-based experiences and community service learning. <i>Corequisites:</i> All of HGSE 310, 311, 312, 313.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale: See the rationale for HGSE 310.</p>

**UBC Curriculum Proposal Form**
Change to Course or Program**Category: 1**

Faculty: Arts Department: Art History and Visual Arts Faculty Approval Date: March 1, 2016 Effective Session (W or S): W Effective Academic Year: 2016	Date: November 27, 2015 Contact Person: Lois Nightingale Phone: 2-0048 Email: arts.curriculum@ubc.ca
Proposed Calendar Entry: ARTH 550 (3) Studies in Art in the Islamic World	Present Calendar Entry: N/A Type of Action: Create New Course. Rationale for Proposed Change: This course will meet a long-standing need for an in-depth graduate research seminar focused on art in the Islamic World.



UBC Curriculum Proposal Form Change to Course or Program

Category: (1)

Faculty: Faculty of Law Department: n/appl Faculty Approval Date: March 10, 2016 Effective Session (W or S): W Effective Academic Year: 2016	Date: March 14, 2016 Contact Person: Dr. Jeremy Schmidt Phone: 604.822.5649 Email: schmidt@allard.ubc.ca
Proposed Calendar Entry: LAW 382 (3) Health Law Legal and policy issues relating to the health care system, including legal aspects of individual and public health decision-making. LAW 434 (3) Medical Negligence Law Legal issues relating to tort claims in negligence and related causes of action against health care providers, with a primary focus on physicians and hospital authorities.	Present Calendar Entry: LAW 382 (3) Law and Medicine Legal issues relating to medicine and the health care system. Type of Action: Change title and course description to create two distinct courses (see rationale for second course.) Rationale for Proposed Change: There are two distinct sets of topics that have been offered under the Law & Medicine course title. This proposal would separate each of them into their own courses with course titles that more accurately reflect the subject matter of each course. This course was taught for the first time in 2015-16 and introduces students to the core concepts of health law and policy, an area that should be offered at any comprehensive Canadian law school. The regulatory framework pertaining to matters of health is vast and constantly changing. This also raises fundamental ethical issues for lawyers and society more generally, placing the question of legal responses to health related problems in a broader theoretical framework.
Proposed Calendar Entry: LAW 442 (3) Condominium Law Legal issues over the lifecycle of condominium/strata property from	Present Calendar Entry: Type of Action: Create new course. Rationale for Proposed Change: Condominium or strata property is an increasingly important form of land



**creation and development, through
operating life, to termination.**

ownership and regulation. This course will provide students with an opportunity to learn the key elements of condominium law in British Columbia. Condominium law receives minimal attention in some sections of existing courses, including LAW 231 Property Law and LAW 455 Real Estate Transactions, but condominium property has become an important enough form of land ownership (particularly residential land ownership) and land use regulation to warrant a dedicated course. There is strong student interest in a course, reflecting the broader public interest in the legal and social aspects of condominium. This course will be an important addition to existing upper year elective options in the areas of property law, real estate law, and land use law.



UBC Curriculum Proposal Form

Change to Course or Program

Category: 1

<p>Faculty: Medicine</p> <p>Department: School of Population and Public Health</p> <p>Faculty Approval Date: March 18, 2016</p> <p>Effective Session: W</p> <p>Effective Academic Year: 2016</p>	<p>Date: February 25, 2016</p> <p>Contact Person: Charlyn Black</p> <p>Phone:</p> <p>Email: charlyn.black@ubc.ca</p>
<p>Proposed Calendar Entry:</p> <p>SPPH 381 (1.5/3) d Selected Topics</p> <p>By seminar and directed readings, certain topics of current interest are explored in depth.</p>	<p>Present Calendar Entry: N/A</p> <p>Type of Action: Create new course</p> <p>Rationale for Proposed Change: As with SPPH 581 Selected Topics, the School is developing a new range of 300-level advanced undergraduate courses for undergraduate students. The courses are considered pilot courses, and are given up to three years to be trialed before approval is granted (by Medicine) for a permanent course number. This new course is required so that the School can pilot new offerings at the 300-level. Versions of this course will provide undergraduate students currently in, entering or interested in health related fields opportunities to explore current issues in population and public health through an inter-disciplinary approach. This will enhance students' ability to understand their current field and its approach to current issues in terms of population and public health, and the perspectives of other related disciplines/professions.</p> <p>Examples of version titles include:</p> <ol style="list-style-type: none"> 1) The Human Cost of Everyday Things: Occupational Health in the Global Supply Chain; 2) Public Health Ethics 3) Health Services and Policy 4) Health in Populations 5) Environmental Health



18 May 2016

To: Vancouver Senate

From: Senate Library Committee

Re: **Annual Report of the Senate Library Committee**

As in previous years, the Committee devoted its main energies to the primary role defined for it by its terms of reference, namely “To advise and assist the Librarian in developing a general program of library services for all the interests of the University.”

The Committee received briefings from the University Librarian and other colleagues from the Library (guest presenters named below), and offered guidance in the following areas:

- Results of library external review and development and implementation of library strategic plan;
- Management of collections budget, given budgetary impact of currency exchange fluctuations;
- Opening of Library PARC (Preservation and Archives) modular storage facility; including tour of facility;
Rue Ramirez, Associate University Librarian, Library PARC
- Planned renovation to Koerner Library levels four and five
Simon Neame, Associate University Librarian & Director, Irving K. Barber Learning Centre
- Planned renovation of Asian Library facility;
- Library initiatives in the area of student mental health and wellbeing



The Committee supports the ongoing review of the Library budget model by the UBC Strategy & Decision Support (SDS) unit. This review is the result, in part, of the burden placed on the Library by the expansion of UBC's course and program offerings. The Library brought these challenges to the attention of the Senate Curriculum Committee this year. At the suggestion of Senator Baimbridge, the issue was presented to the Council of Senates Budget Committee Vancouver Sub-Committee for discussion, and subsequently referred to the SDS. The Committee looks forward to learning of the results of the review in the 2016-2017 academic year, and working with the Library to implement the recommendations of Strategy & Decision Support.

In conclusion, the Committee wishes to record its appreciation of the assistance and information provided to it with unfailing courtesy and efficiency by UBC Librarians and other members of the Library staff, and the Office of the Senate.

Respectfully submitted,

Dr. Larry Burr, Chair
Senate Library Committee



4 May 2016

To: Senate
From: Nominating Committee
Re: Committee and Council Appointments and Election

The Senate Nominating Committee is pleased to recommend that Senate resolved as follows:

That Dr David McDonalds be appointed to the Senate Admissions Committee until 31 August 2017 and thereafter until replaced;

That Dr Alan Richardson be appointed to the Senate Committee on Appeals of Academic Standing until 31 August 2017 and thereafter until replaced;

That Mses Melina Huang, Samatha So, and Danika Coulbourn be appointed to the Senate Academic Building Needs Committee until 31 March 2017 and thereafter until replaced;

That Mssrs Mark Bancroft and Nick Dawson be appointed to the Senate Academic Policy Committee until 31 March 2017 and thereafter until replaced;

That Mr Benjamin Fischer and Ms Taneille Johnson be appointed to the Senate Admissions Committee until 31 March 2017 and thereafter until replaced;

That Mssrs Benjamin Fischer and Nick Dawson be appointed to the Senate Agenda Committee until 31 March 2017 and thereafter until replaced;

That Mssrs Steven Zbarsky and Mark Bancroft and Ms Melina Huang be appointed to the Senate Committee on Appeals on Academic Standing until 31 March 2017 and thereafter until replaced;

That Mses Danika Coulbourn, Miranda Huron and Samantha So and Mssrs Ian Sapollnik and Daniel Lam be appointed to the Senate Curriculum Committee until 31 March 2017 and thereafter until replaced;



That Ms Taneille Johnson, Jolene Lvoeday, and Daphne Tse and Mr Mark Bancroft be appointed to the Senate Library Committee until 31 March 2017 and thereafter until replaced;

That Ms Ho Yi Kwan and Mssrs Steven Sbarsky and Nick Dawson be appointed to the Senate Committee on Student Appeals on Academic Discipline until 31 March 2017 and thereafter until replaced;

That Mses Miranda Huron and Ho Yi Kwan be appointed to the Senate Awards Committee until 31 March 2017 and thereafter until replaced;

That Mr Daniel Lam and Mses Melina Huang and Samatha So be appointed to the Senate Teaching & Learning Committee until 31 March 2017 and thereafter until replaced;

That Mses Kaidie Williams and Samantha So be appointed to the Senate Tributes Committee until 31 March 2017 and thereafter until replaced;

That Mses Ava Maleki, Lina Castro and Kaidie Williams and Mr Jason Speidel be appointed to the Senate Ad Hoc Committee on Mental Health and Wellbeing;

That Mses Danika Coulbourn, Ava Maleki, and Lina Castro be appointed to the Senate Ad Hoc Committee on Flexible Learning;

That Mr Jason Speidel be appointed to Council of Senates Vancouver Representative Committee 4 until 31 March 2017;

That Ms Daphne Tse and Mr Ian Sapollnik be appointed to the Council Budget Committee until 31 March 2017 and thereafter until replaced;

That Ms Miranda Huron be appointed to the Council Elections Committee until 31 March 2017 and thereafter until replaced; and

That Mses Taneille Johnson and Ava Maleki be elected to the Council of Senates.



6 May 2016

To: Vancouver Senate

From: Committee on Student Appeals on Academic Discipline

Re: **Annual Report to Senate (1 May 2015 – 30 April 2016) (information)**

Members of the Committee:

- Mr. Tariq Ahmed (Chair)
- Dr. Perry Adebar
- Ms. Erin Biddlecombe
- Dr. Philip Loewen
- Dr. C. W. Marshall
- Dr. Glen Peterson
- Dr. Claudia Ruitenberg
- Mr. Josh Abaki
- Ms. Ava Maleki
- Mr. Gurvir Sangha

The Senate Committee on Student Appeals on Academic Discipline is a standing committee of the Vancouver Senate established under section 37(1)(v) of the *University Act*, R.S.B.C. 1996, c.468. The Senate Committee is the “standing committee in the final appeal for students in matters of academic discipline.” Under section 61(1) of the *Act*, the “president has power to suspend a student and to deal summarily with any matter of student discipline.” Under section 61(2), the President “must promptly report the action of the standing committee established under section 37(1)(v) with a statement of his or her reasons.” Under section 61(3), the “action of the president is final and subject in all cases to an appeal to the Senate.”

Student discipline is governed by the Academic Regulations section of the UBC Calendar. The rules and procedures of the Senate Committee on Student Appeals on Academic Discipline can be found at <https://senate.ubc.ca/vancouver/rules/discipline>.

Appeals Heard

During the period from 1 May 2015 to 30 April 2016, the Senate Committee heard six appeals involving students disciplined by the President upon the recommendation of the President’s Advisory Committee on Student Discipline. Of the six appeals considered by the Senate Committee during the reporting period, one was allowed and five were dismissed. The misconduct, the disciplinary actions taken by the President, the nature of the appeals and the decisions of the Senate Committee are as follows:



1. 12 June 2015

The student was disciplined for cheating on a midterm examination by copying material from another student's examination paper. The discipline imposed by the President was a mark of zero in the course, suspension from the University for a period of four months and a notation of academic misconduct entered on the student's transcript. The student raised one ground for appeal, namely that the discipline imposed by the President was excessive, specifically the notation of academic misconduct on the transcript.

The standard of review for this ground of appeal is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the exercise of the President's discretion with respect to the discipline imposed is unreasonable. The Senate Committee found that the President's decision was not unreasonable on this ground.

Appeal dismissed.

2. 16 June 2015

The student was disciplined for non-academic misconduct for physically assaulting a fellow student. The discipline imposed by the President was a formal written reprimand and a requirement to meet with a university representative to discuss appropriate responses to conflict and cultural misunderstanding with colleagues and fellow students. The student raised two grounds for appeal:

- 1) The President incorrectly determined the student's conduct, either admitted or as found by the President, to constitute misconduct or that the President incorrectly applied a University policy or procedure.

The standard of review for this ground of appeal is correctness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if it disagrees with the President's determination or application of the University policy or procedure. The majority of the Senate Committee found that there was no basis for this ground of appeal. A minority of the Senate Committee would have allowed an appeal on this ground.

- 2) The President erred in his assessment of the evidence in the President's Committee's report, including any factual inferences made by the President, or the credibility of the student or other witnesses.

The standard of review for this ground of appeal is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the President's assessment of the evidence in the President's Committee's report, including any factual inferences made by the President or the credibility of the student or other witnesses, is unreasonable. The Senate Committee unanimously found that the President's assessment of the evidence was reasonable.



Appeal dismissed.

3. 28 July 2015

The student was disciplined for submitting three written assignments containing plagiarized text. The discipline imposed by the President was a mark of zero in the course, suspension from the University for a period of eight months and a notation of academic misconduct entered on the student's transcript. The student raised one ground for appeal, namely that the discipline imposed by the President was excessive.

The standard of review for this ground of appeal is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the exercise of the President's discretion with respect to the discipline imposed is unreasonable. The Senate Committee found that the President's decision was not unreasonable on this ground.

Appeal dismissed.

4. 13 August 2015

The student was disciplined for asking another student to provide unauthorized material (a screenshot of the other student's final examination), so that they could use it during their final examination later that day and sharing the material with a third student. The discipline imposed by the President was a mark of zero in the course, suspension from the University for a period of twelve months and a notation of academic misconduct entered on the student's transcript. The student appealed on the ground that the procedure of the President's Committee was unfair or operated unfairly, in that there was bias or a lack of independence in the President's Committee, or the President's Committee's procedures were unfairly applied or breached, or that the President gave insufficient reasons for his decision.

The student submitted that there were two sub-grounds of appeal:

- The President's Committee violated procedural fairness and the principles of natural justice by considering evidence without presenting said evidence to the student or giving the student an opportunity to respond; and
- The President's Committee made findings of fact in the absence of any evidence to support said findings of fact.

The standard of review for this ground of appeal is reasonableness; whether a reasonable person, knowledgeable about the facts, would perceive the process before or at the President's Committee to be unfair. If the Senate Committee finds this to be the case, it will refer the matter back to the President's Committee for a re-hearing, or with the consent of the student and the Initiator, reverse or vary the President's decision or substitute its own decision.



A majority of the Senate Committee found that on the first sub-ground, a reasonable person, knowledgeable about the facts, would perceive the process before the President's Committee to be unfair. In the absence of consent of the Initiator to reverse or vary the President's decision or substituting the Senate Committee own decision, the appeal was allowed by sending the matter back to the President's Committee for rehearing. A minority of the Senate Committee found that a reasonable person, knowledgeable about the facts, would not perceive the procedures before the President's Committee to be unfair.

Given the Senate Committee's decision on the first sub-ground and the relief granted as a result, the Senate Committee made no decision on the second ground of appeal.

Appeal allowed.

5. 16 October 2015

The student was disciplined for submitting an assignment that was plagiarized, in part, from the assignment of another student. The discipline imposed by the President was a mark of zero in the course. The student raised one ground of appeal, namely that the discipline imposed by the President was excessive.

The standard of review for this ground is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the exercise of the President's discretion with respect to the discipline imposed is unreasonable. A majority of the Senate Committee found that the President's decision was not unreasonable on this ground. A minority of the Senate Committee found that the discipline imposed was excessive.

Appeal dismissed.

6. 18 December 2015

The student was disciplined for submitting two assignments that contained material plagiarized from a report submitted by another student in a previous academic year. The discipline imposed by the President was a mark of zero in the course, suspension from the University for a period of four months and a notation of academic misconduct entered on the student's transcript. The student raised three grounds for appeal:

- 1) That the student had material evidence that was not reasonably available at the time of the President's Committee hearing.

Where the Senate Committee is satisfied that the material evidence was not reasonably available at the time of the President's Committee hearing and there is substantial likelihood that it would affect the outcome, the Senate Committee will send the matter back to the President's Committee for re-hearing. The Senate Committee did not find it likely that the new evidence would have affected the outcome of the President's Committee hearing.



- 2) That the President erred in her assessment of the evidence in the President's Committee's report, including any factual inferences made by the President, or the credibility of the student or other witnesses.

The standard of review for this ground of appeal is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the President's assessment of the evidence in the President's Committee's report, including any factual inferences made by the President or the credibility of the student or other witnesses, is unreasonable. The Senate Committee found that the President's assessment of the evidence was reasonable.

- 3) That the discipline imposed by the President was excessive.

The standard of review for this ground of appeal is reasonableness. The Senate Committee may reverse or vary the President's decision or substitute its own decision only if the exercise of the President's discretion with respect to the discipline imposed is unreasonable. The Senate Committee found that the exercise of the President's discretion with respect to the academic discipline imposed was not unreasonable.

Appeal dismissed.

General Comments

The Senate Committee also provides general comments from observations over the past year:

- Some appellants appear to have been confused about the grounds of appeal and the applicable standard of review, both of which are set out in the UBC Calendar,
- From the cases the Senate Committee has heard, it appears that practices for dealing with academic misconduct vary across academic units (including when referral to the President's Advisory Committee on Student Discipline occurs). It also appears that in at least one instance, disciplinary action was taken against one student who engaged in academic misconduct while disciplinary action was not taken against others who assisted the disciplined student in engaging in the misconduct. The Senate Committee as a whole does not hold a view on the propriety of these variances but some members of the Senate Committee wanted to note to the Senate that these differences appear to exist.

Respectfully submitted,

Tariq Ahmed, Chair
Senate Committee on Student Appeals on Academic Discipline



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Office of the Senate
2016-1874 East Mall
Vancouver, BC Canada V6T 1Z1

www.senate.ubc.ca

1 May 2016

To: Vancouver Senate

From: Senate Teaching and Learning Committee

RE: **Report on Ongoing Activities of the Committee (for information)**

The Senate Teaching and Learning Committee is pleased to provide Senate with the following updates as to the Committee's recent activities:

1) Resource Page for Syllabi

The Committee discussed syllabi from various angles on multiple occasions in the past year, stemming from Committee members' inquiries around the 'why' behind the syllabus template. As there seems to be increasing diversity in the information students are seeing on syllabi, there needs to be a rationale for why information is included. The Senate Curriculum Committee provides guidelines through a syllabus template, which should be used when submitting new course proposals for Senate approval. Senate oversight may be lost however, when a course has run many years without curriculum renewal requiring Senate Curriculum Committee approval. The syllabus may take on different or outdated formatting or not be used at all.

Recognizing that the AMS has shown concern that some students report attending courses without being provided syllabi, the Committee has made a suggestion to the Academic Policy Committee that a syllabi policy be created. One part of the policy could include the requirement to supply students with a course syllabus. Syllabi should be acknowledged as an important communication tool between the faculty member and student.

Another part of the suggested syllabi policy could define what specifically should be included in the syllabus. What other relevant policies or statements might be appropriate? Beyond the function of a syllabus to communicate course curricular information, the Committee believes important messaging regarding student resources could also be included. In this way, syllabi could serve as a communication channel between UBC and students.

To this end, the Committee has developed a proposed resource page for syllabi. This resource page has the potential to integrate messaging about student mental health and well-being into the classroom, as well as providing links to key "triage point" resources relating to academic support, campus involvement, and the equitable and respectful treatment toward students. Additionally, the resource page could assist faculty members by providing a tool for them to support students in their classrooms.

The Committee has provided a proposal to the Academic Policy Committee to advocate for implementation of the resource page through its inclusion in a standard syllabus template.

2) *Working Group on Student Assessment*

In May 2015, the Committee agreed to strike a Working Group to discuss matters relating to Student Assessment. The Working Group met several times during the past academic year and relevant presentations have been given, including on the Cognitive Science of Learning Enhancement.

The Committee is currently considering ways to focus more attention next year on innovation and assessment, as it is an integral part of the learning process for students. Various pertinent topic areas will continue to be explored in 2016-2017 through presentations and informal consultations.

3) *Communication with New Faculty Members*

The Committee Chair has connected with Human Resources regarding onboarding messaging towards new faculty members. The Committee has requested that information be provided to the new faculty members around the importance of teaching at UBC, including links to resources, for example, to the Centre for Teaching, Learning and Technology (CTLT) for assistance in creating syllabi. It is expected this connection with Human Resources and CTLT will continue into next academic year to create and implement this messaging.

Any questions about the activities of the Committee can be referred to Maggie O'Neill at Maggie.oneill@ubc.ca.

Respectfully submitted,

Dr. André Ivanov
Chair, Senate Teaching and Learning Committee



6 May 2016

To: Vancouver Senate
From: Tributes Committee
Re: Candidates for Emeritus Status (approval)

The Tributes Committee recommends approval of the following motion:

Motion: *That the attached list of individuals for emeritus status be approved and that, pursuant to section 9(2) of the University Act, all persons with the ranks of Professor Emeritus, Associate Professor Emeritus, Assistant Professor Emeritus, Senior Instructor Emeritus, General Librarian Emeritus or Administrative Librarian Emeritus be added to the Roll of Convocation.*

Respectfully submitted,

Dr. Sally Thorne
Chair, Tributes Committee

Faculty Members Eligible for Emeritus Status				
2016 May Senate				
Last Name	First Name	Rank	Faculty	Emeritus Title
Atwater	James W.	Associate Professor	Applied Science	Associate Professor Emeritus of Civil Engineering
Bevier	Mary Lou	Senior Instructor	Science	Senior Instructor Emeritus of Earth and Ocean Sciences
Blair	Norman Peter	Clinical Professor	Medicine	Clinical Professor Emeritus of Surgery
Bradfield	Gary E	Associate Professor	Science	Associate Professor Emeritus of Botany
Brownsey	Roger W	Professor	Medicine	Professor Emeritus of Biochemistry and Molecular Biology
Bryant	Lee Ann F	General Librarian	Library	General Librarian Emeritus
Cochrane	Douglas	Professor	Medicine	Professor Emeritus of Surgery
Cohen	David H	Professor	Forestry	Professor Emeritus of Wood Science
Dean	Elizabeth	Professor	Medicine	Professor Emeritus of Physical Therapy
Derksen	Ruth	Senior Instructor	Applied Science	Senior Instructor Emeritus of Civil Engineering
Elliot	Robin M	Professor	Law	Professor Emeritus of Law
Finley	Richard John	Professor	Medicine	Professor Emeritus of Surgery
Gascoyne	Randall	Clinical Professor	Medicine	Clinical Professor Emeritus of Pathology
Halstead	Anne Catherine	Clinical Associate Professor	Medicine	Clinical Associate Professor Emeritus of Pathology
Harrison	Rosamund Louise	Professor	Dentistry	Professor Emeritus of Oral Health Sciences
Hay	John	Clinical Professor	Medicine	Clinical Professor Emeritus of Surgery
Kim	Helen Hyun-Ja	General Librarian	Library	General Librarian Emeritus
Kirkpatrick	David G	Professor	Science	Professor Emeritus of Computer Science
Li	David Kwok-Boon	Professor	Medicine	Professor Emeritus of Radiology
Lowe	Alan Arthur	Professor	Dentistry	Professor Emeritus of Oral Health Sciences
Mortensen	James K	Professor	Science	Professor Emeritus of Earth and Ocean Sciences
Nakamura	Masao	Professor	Commerce and Business Administration	Professor Emeritus of Commerce and Business Administration
O'Neill	Brian	Associate Professor	Arts	Associate Professor Emeritus of Social Work
Oum	Tae Hoon	Professor	Commerce and Business Administration	Professor Emeritus of Commerce and Business Administration
Paterson	Robert K	Professor	Law	Professor Emeritus of Law
Reeder	Kenneth F	Professor	Education	Professor Emeritus of Language and Literacy Education
Romilly	Douglas	Associate Professor	Applied Science	Associate Professor Emeritus of Mechanical Engineering
Saltman	Judith	Professor	Arts	Professor Emeritus of Library, Archival and Information Studies
Seixas	Peter	Professor	Education	Professor Emeritus of Curriculum and Pedagogy
Sheps	Samuel B	Professor	Medicine	Professor Emeritus of Population and Public Health
Smith	James Leslie	Professor	Science	Professor Emeritus of Earth and Ocean Sciences
Stanton	Susan Jennifer	Associate Professor	Medicine	Associate Professor Emeritus of Occupational Science and Occupational Therapy
Stephenson	Mary Sue	Senior Instructor	Arts	Senior Instructor Emeritus of Library, Archival and Information Studies
Sullivan	T. Richard	Associate Professor	Arts	Associate Professor Emeritus of Social Work
Sullivan	Thomas Priestlay	Professor	Land and Food Systems	Professor Emeritus of Applied Biology
Tester	Frank	Professor	Arts	Professor Emeritus of Social Work
Thompson	Peggy	Associate Professor	Arts	Associate Professor Emeritus of Creative Writing
Townsend-Gault	Charlotte	Professor	Arts	Professor Emeritus of Art History, Visual Art and Theory
Tsui	Joseph	Professor	Medicine	Professor Emeritus of Neurology
Warriner	Charles Brian	Professor	Medicine	Professor Emeritus of Anesthesia, Pharmacology and Therapeutics
Williams	Richard	Clinical Professor	Medicine	Clinical Professor Emeritus of Psychiatry
Wynn	Graeme C	Professor	Arts	Professor Emeritus of Geography

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THE UNIVERSITY OF BRITISH COLUMBIA

MEMORANDUM

May 3, 2016

To: Vancouver Senate

From: Angela Redish, Provost and Vice-President Academic, *pro tem*

A handwritten signature in dark ink, appearing to be 'AR'.

Re: Support for the establishment of the Data Science Institute

I am pleased to support the establishment of the Data Science Institute in the Faculty of Science at UBC. The institute will accelerate UBC's capabilities in interdisciplinary research involving data science. It will provide a point of contact for UBC researchers and others outside UBC to engage with and help advance data science methods and techniques and will facilitate and promote inter-faculty research involving data science methods and techniques.

Therefore, I recommend that Senate approve the establishment of the Data Science Institute in the Faculty of Science at UBC effective July 1, 2016.

Data Science Institute – Executive Summary

Mission: The Data Science Institute at UBC will accelerate the development of approaches to manage, analyze and extract knowledge from complex data sets. Organizations, big and small, commercial and research, are amassing phenomenal amounts of data. Across almost every domain, new insights, rational decisions and informed actions must be based on applying appropriate analyses, using tools that apply at scale. The Data Science Institute will enable the formation of interdisciplinary research teams to advance data science research and to apply newly developed data science techniques to complex problems faced by UBC researchers across multiple domains, including health, science and arts. The Data Science Institute will provide a collaboration hub to enable inter-faculty interactions on research problems involving large and complex data sets. The Data Science Institute will also enable organizations outside UBC to access the diverse inter-faculty expertise at UBC related to data analysis.

Rationale and Research Background: Multiple research areas are experiencing tremendous change and opportunities with the ability to access new kinds of data. For example, the growing availability of genomic information is enabling the development of precision medicine, where treatment can be tailored to individuals rather than being based on trends across a population. Effective precision medicine requires not only the modeling and synthesis of vast amounts of data, but also the integration of multiple kinds of data including genetics, genomics, clinical and often imaging data. As another example, the accumulation of massive volumes of social networking data and informal text data, such as blogs, tweets, reviews, has found many applications in marketing, and in political and social sciences.

Research in data is typically referred to as *data science*. Broadly defined, it refers to methods, processes and tools that allow a user to interpret and understand insights extracted from large and complex data collections. It is an interdisciplinary field involving many areas in computer science, statistics, and mathematics, including data mining, machine learning, visualization, statistical inference, predictive modeling, data management and high performance computing.

Methods and tools can be roughly divided into three categories. The first category processes and manages data of all forms, from structured to semi-structured to unstructured data. Structured data typically refer to relational data that are stored in databases, or spreadsheets. Semi-structured data refer to data with looser data schemas, such as XML, which are more flexible for data exchange in the Internet. Linked open data, as supported by the Canadian federal government and various provincial governments, are examples of semi-structured data sources. Unstructured data nowadays are predominantly images/videos or free-form text. Tools for assessing data quality, data cleansing, integration, linking and managing access are essential for data of all forms. Faculty members from the Department of Computer Science are developing many of these tools.

The second category of methods and tools provide analysis and modeling of the data. Of particular importance are methods that allow joint modeling of diverse data types and data from disparate sources. Using precision medicine as an example, not only are there tools that model and analyze next-generation gene expression sequencing data, but there are also methods that link DNA methylation and proteomics data to the sequencing data to gain a better understanding of disease mechanisms. Within the Faculty of Science, many faculty members from various departments, such as Computer Science, Statistics, and Microbiology & Immunology, collaborate with researchers in St Paul's Hospital, BC Cancer Research Centre, and Child and Family Research Institute. Animal monitoring with sensors and cameras provides a second example: there are tools to model the movement of animals across time and space, so as to understand

changes in migration patterns due to climate and environmental factors. Various faculty members from Computer Science, Statistics, Mathematics, Earth, Ocean and Atmospheric Sciences collaborate on environmental monitoring and related projects.

The last category of methods and tools provide interpretation of data and insights to users. Given the volume and variety of data, visualization tools are critical for the domain scientists to display their data, to observe the correlation and discrepancy of different types of data, and to interpret the results of models. Beyond visualization, there are other valuable forms of interpretation. In the case of genomics research, for instance, researchers can advance their understanding of unfamiliar genes by linking to related literature, or by joining appropriate online discussion forums of like-minded researchers. Several faculty members from Computer Science are prominent in developing these kinds of interpretation tools.

The Faculty of Science has continued to grow its research strength in data science through several Canada Research Chairs. In the area of data science, the Department of Computer Science and the Department of Statistics have recently collaborated to create a professional Master of Data Science degree, which enables students from a broad spectrum of undergraduate specialties to gain computational and data analysis skills. The formation of this program has initiated increased interaction with local industries interested in collaborating on data science problems.

Although housed in the Faculty of Science, members of the Data Science Institute will collaborate closely with other faculty across the University who engage in data science, including faculty from Economics, Sauder and Medicine.

The Data Science Institute will work synergistically with UBC's Advanced Research Computing (ARC) team. The ARC team is focused on increasing the access and capacity at UBC to computational resources that will enable the analysis of data at scale. ARC staff help UBC researchers use computational resources, such as Compute Canada, and to apply standard analysis approaches. The Data Science Institute will provide an opportunity for UBC researchers who require more than standard analyses to participate in interdisciplinary teams that both push the forefront of data science and accelerate their own research. The Data Science Institute will thus help accelerate the computational access and capacity being provided by ARC into fundamental discoveries and research breakthroughs across many areas of UBC.

Institute Goals and Activities: The Data Science Institute will focus on the delivery of outstanding data science scholarship, exceptional training, and community synergies in data science. The Data Science Institute will have three particular foci:

- The Data Science Institute will facilitate the formation of interdisciplinary research teams across the University to advance data science research and development.
- The Data Science Institute will provide comprehensive training to data scientists at the post-doctoral level as these individuals are well positioned to fully engage in interdisciplinary projects.
- The Data Science Institute will enable a network of organizations to develop solutions for their data-rich applications.

In addition to foster data science research and building interdisciplinary problem-based teams, the Institute will organize seminars and workshops to connect UBC researchers with data-rich problems with UBC researchers with data techniques. The Institute will also liaise with organizations (commercial and not-for-profit) outside UBC to pursue joint research and development opportunities on data-rich problems.

Governance Structure:

The governance structure is shown below.

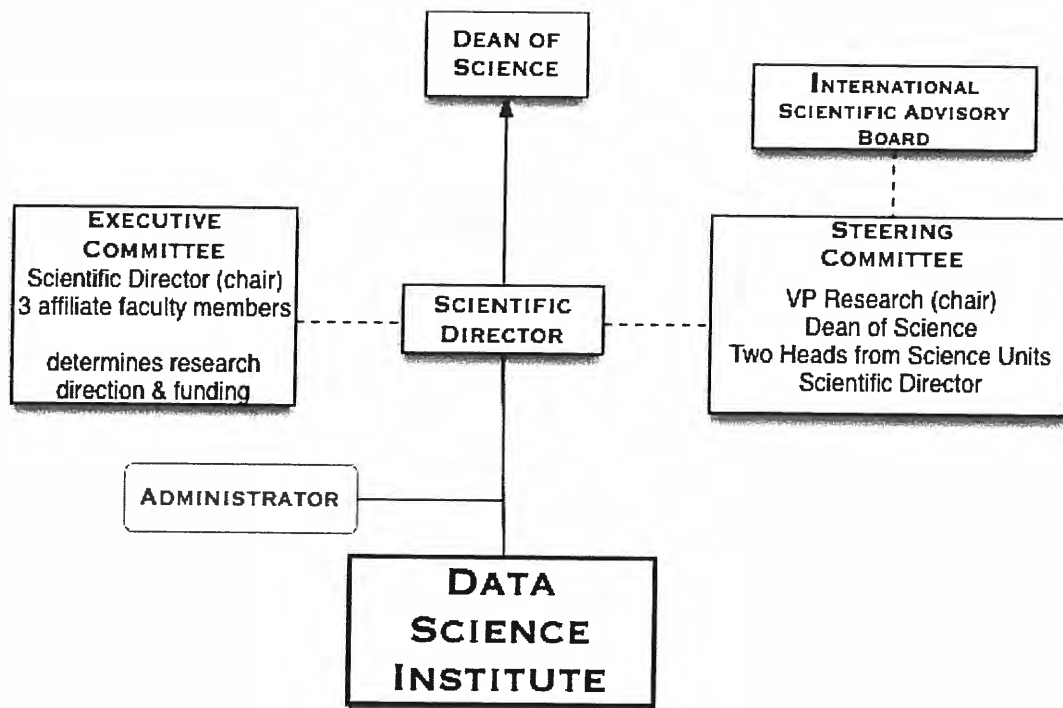
The International Scientific Advisory Board will be selected by the Steering Committee and will meet annually.

The Steering Committee will include two Heads of Departments in Science with faculty who are participating in the Institute. The two Heads will serve for terms of three years and will be selected by the Scientific Director, Dean of Science and Vice-President Research and International.

The Executive Committee will consist of the Scientific Director and three faculty members who are participating in the Institute. The Executive committee will propose research directions and will set funding priorities. The Executive Committee will meet quarterly.

The Scientific Director will Chair the Executive Committee and will guide the activities of the Data Science Institute using input from the Executive Committee. The Scientific Director will report to the Dean of Science.

It is anticipated that between 12 and 18 faculty members will be affiliated with the institute initially along with associated personnel, including post-doctoral fellows and graduate students.



Budget Details: The Data Science Institute budget is based on the proposed structure. The management costs consist of salary for an administrator, a stipend for the Scientific Director and office and travel expenses.

The research costs include a part-time grant writer to encourage the writing of inter-disciplinary grants, support for a seminar series and matching funds for post-doctoral fellows.

The Faculty of Science will provide annual funding.