





























highest admission GPA. The award is made on the recommendation of the College of Graduate Studies in consultation with the School of Nursing. Dorothy Proudfoot (1929-2015) had an intriguing nursing career which spanned many decades, starting in Humboldt, Saskatchewan, and ending in long-term care in Kelowna, BC. She flew with the Saskatchewan Air Ambulance and served as a nurse in Japan during the Korean War. Dorothy worked in community health for many years in Kelowna and she was also involved in home nursing, long-term care assessment, and administration. (First award available for the 2017 Winter Session)

*Revised Award:*

(Previously-approved awards with changes in terms or funding source):

**g) Existing description: Graduate Dean's Thesis Fellowship**

The Graduate Dean's Thesis Fellowship is a merit-based fellowship that is awarded to full-time, thesis-based **graduate MFA and PhD** students who are approaching their final year and are focusing on the completion of their thesis or dissertation. This scholarship is intended to provide financial support while students are engaged in the final writing stages of their graduate programs.

The award value is \$6,000. ~~The College of Graduate Studies anticipates awarding twelve awards per year for a total of \$72,000.~~ Students may apply for this funding **three two** times per year. Graduate programs may submit up to two nominations per award cycle to the College of Graduate Studies. The College of Graduate Studies Scholarship and Awards Committee will review and rank nominations received from graduate programs and provide recommendations to the Dean, who will determine the final awardees.

(Revised award effective session 2017W)

*Amended Description:*

The Graduate Dean's Thesis Fellowship is a merit-based fellowship that is awarded to full-time, thesis-based MFA and PhD students who are approaching their final year and are focusing on the completion of their thesis or dissertation. This scholarship is intended to provide financial support while students are engaged in the final writing stages of their graduate programs.

The award value is \$6,000. Students may apply for this funding two times per year. Graduate programs may submit up to two nominations per award cycle to the College of Graduate Studies. The College of Graduate Studies Scholarship and Awards Committee will review and rank nominations received from graduate programs and provide recommendations to the Dean, who will determine the final awardees.

(Revised award effective session 2017W)

*Rationale:*

The proposed changes to the Graduate Dean's Thesis Fellowship awarding process are the outcome of multiple conversations with staff, faculty, and faculty administrators, culminating in a meeting of College of Graduate Studies Council on October 19, 2016, in which these changes were approved by a formal vote of the members present. A thrice-per-annum award cycle weighed too heavily on CoGS staff resources and placed unjustifiable demands on supervisors of graduate students and on adjudicators of the award process. Two award cycles are more consistent with the limited amount of funding available for this award, available UBCO staff and faculty resources and with the intention of the award. The total funding amount for this award will remain the same: it will simply be allocated twice a year, and only among PhDs and MFAs.

In keeping with the Canada-wide emphasis at research universities on promoting first and foremost the PhD or terminal disciplinary degrees such as the MFA, the College of Graduate Studies Council proposes (by unanimous vote) to make the limited funds available for this award accessible only to Ph.D. students and MFA students engaged in the final writing stages of their graduate programs.

A note on the “terminal” MFA: some would argue (and did at the College of Graduate Studies Council meeting on October 19, 2016) that an MFA is not necessarily terminal. A few Universities in Canada offer PhD degrees in MFA areas. At many universities and Canada and elsewhere, however, the MFA remains a terminal disciplinary degree, which is the case at UBC Okanagan. Accordingly, the College of Graduate Studies Council found this argument to be persuasive and are therefore treating the MFA as a terminal degree for purposes of this award.

A note on the title of the award: “Graduate Dean” is not the official title of the Dean of the College of Graduate Studies, but it is the commonly used short-hand title, and much less cumbersome for the title of this award than the “official” language would be. Everyone recognizes its meaning.

## **Appendix B: Curriculum Report**

### **FROM THE FACULTY OF ARTS AND SCIENCES**

*New Course:*

ECON 321 (3) Experimental Economics

### **FROM THE FACULTY OF HEALTH AND SOCIAL DEVELOPMENT**

*New Course:*

HEAL 100 (3) Introduction and Principles of Health and Wellbeing



# 2017/18 UBCO OPERATING BUDGET

**OKANAGAN SENATE**

**MARCH 2017**



# Fiscal Environment

- Domestic tuition capped at 2%
- Aging faculty due to end of mandatory retirement, funding pressures
- Provincial restriction on use of consolidated reserves
- Research funding becoming more competitive
- Growing international enrolment

## Strategy

- Enhance programming that supports core academic mission
- Administrative best-practices focused on outcomes
- Align fundraising activities towards University's priorities
- Position UBC for research funding success
- Continual evaluation of fees



# Funding Context

- Balanced operating budget
- Government grant cuts from FY14 to FY16. Annual budget impact of \$1.9m, cumulative effect of \$7.4m
- Impact of recent retroactive faculty settlement in FY16 \$2.0m, with a recurring impact of \$1.6m
- Domestic enrolment rate increase of 2% per year, and tuition rate increase of 2%
- Faculties budgeting 15% FTE growth and 15% tuition growth in International Tuition; mitigating risk by planning 5% FTE growth for central unit budgets
- International tuition growth of \$6.4m is allocated as follows:
  - \$2.2m to the Faculties
  - \$1.6m to the Excellence Fund
  - \$0.5m to Student Financial Aid
  - \$1.3m held back as tuition retained risk (10% FTE growth)
  - \$0.8m to central support services
- Excellence Fund allocation of \$0.75m in FY17 and \$1.6m in FY18 for total funding of \$2.3m



# UBC - Consolidated Perspective



## Operating Revenue

(in \$millions)

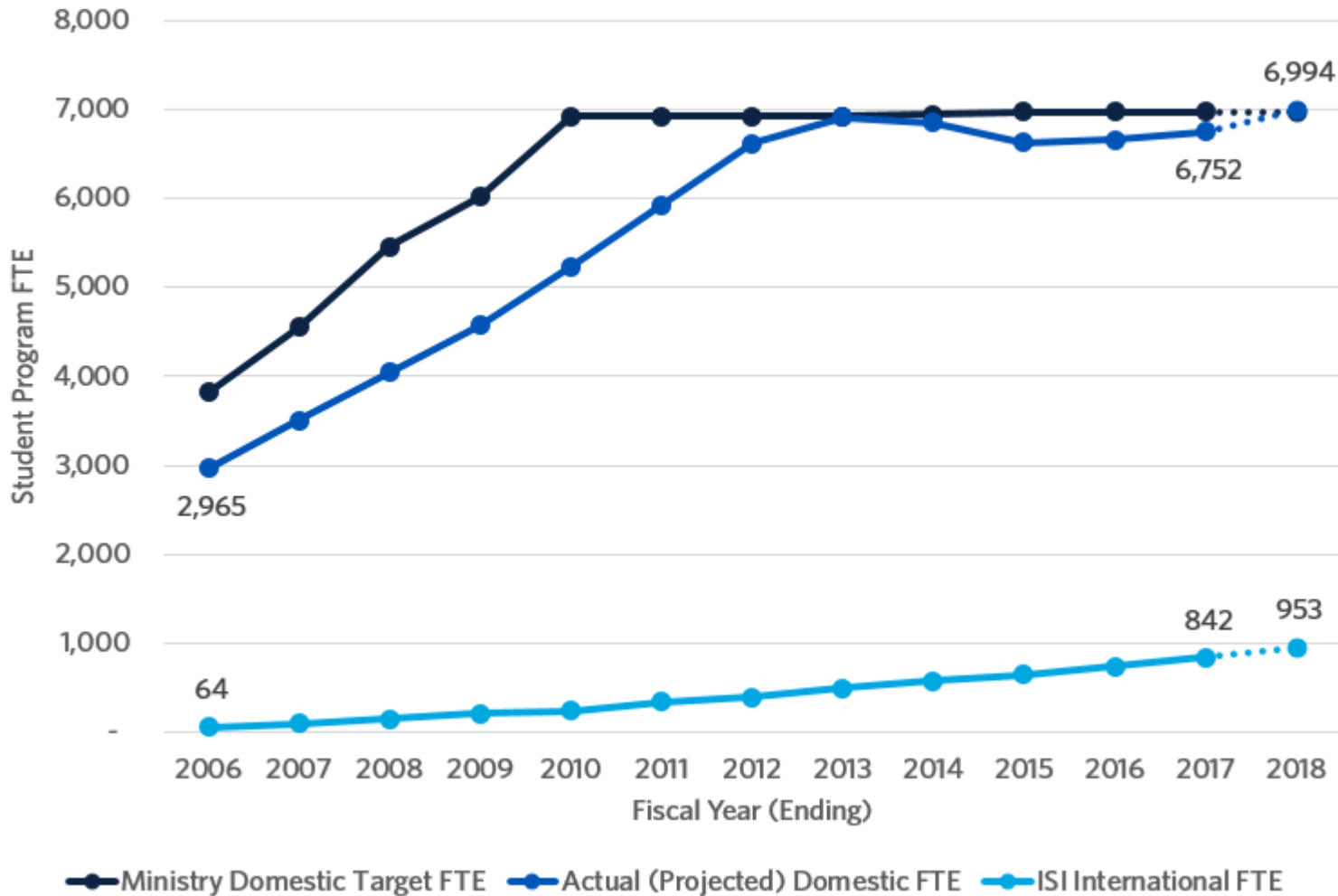
	UBC Vancouver				UBC Okanagan				UBC Total			
	Actual Fiscal 15/16	Forecast Fiscal 16/17	Budget Fiscal 17/18	Budget vs. Forecast	Actual Fiscal 15/16	Forecast Fiscal 16/17	Budget Fiscal 17/18	Budget vs. Forecast	Actual Fiscal 15/16	Forecast Fiscal 16/17	Budget Fiscal 17/18	Budget vs. Forecast
Provincial government grants	522	530	543	12	67	67	68	1	589	598	611	13
Undergraduate tuition												
Domestic	182	188	193	5.5	32	33	34	1	213	220	227	7
International	170	207	247	40.2	19	24	30	6	189	231	277	47
Graduate tuition	60	65	71	6.1	4	4	4	-	64	69	75	6
Investment income	41	44	44	-	-	-	-	-	41	44	44	-
Research revenue	40	39	36	(2)	1	1	1	()	41	40	37	(2)
Business revenue	18	22	23	1	1	1	1	-	19	23	24	1
Land development proceeds	17	19	22	3	-	-	-	-	17	19	22	3
<b>Subtotal</b>	<b>1,050</b>	<b>1,113</b>	<b>1,179</b>	<b>65</b>	<b>123</b>	<b>130</b>	<b>139</b>	<b>9</b>	<b>1,173</b>	<b>1,243</b>	<b>1,318</b>	<b>74</b>
Faculty revenue	177	182	173	(8)	1	1	1	()	178	183	174	(9)
Central support unit revenue	358	373	392	19	9	9	10	1	367	382	402	20
<b>Total Operating Revenue</b>	<b>1,585</b>	<b>1,668</b>	<b>1,744</b>	<b>76</b>	<b>132</b>	<b>140</b>	<b>149</b>	<b>10</b>	<b>1,717</b>	<b>1,808</b>	<b>1,894</b>	<b>86</b>

## Student Enrolment

Student FTE	16/17			17/18 (Projected)			Change
	Vancouver	Okanagan	Total UBC	Vancouver	Okanagan	Total UBC	
Undergraduate							
Domestic	30,901	6,140	37,041	30,917	6,290	37,207	0.4%
International	8,046	846	8,892	8,746	953	9,699	9.1%
Total	38,947	6,986	45,933	39,663	7,243	46,906	2.1%
Graduate	7,851	670	8,521	7,852	704	8,556	0.4%
<b>Total</b>	<b>46,798</b>	<b>7,656</b>	<b>54,454</b>	<b>47,515</b>	<b>7,947</b>	<b>55,462</b>	<b>1.9%</b>

# UBCO – Student Enrolment History

## Actual and Projected Student Program FTE Summary



# Historical Context

(\$m)	Fiscal Allocations <sup>1</sup>		Change		
	12/13 Actuals	17/18 Budget	Fiscal (\$)	% of Total	Growth (%)
Faculties	55.2	71.6	16.4	55.7%	29.7%
Provost and Vice Principal	10.5	12.9	2.4	8.1%	22.8%
Vice Principal Research	1.1	3.6	2.5	8.6%	230.9%
Deputy Vice-Chancellor	2.7	3.1	0.5	1.5%	16.7%
AVP Finance and Operations	16.8	20.2	3.4	11.4%	20.1%
AVP Students	4.8	6.3	1.5	5.2%	31.9%
Development and Alumni Engagement	1.4	1.7	0.3	1.1%	23.6%
Human Resources	1.2	1.3	0.1	0.5%	11.7%
Contributions to UBCV <sup>2</sup>	2.2	3.5	1.3	4.4%	59.1%
Campus-wide Expenses <sup>3</sup>	3.4	3.1	(0.3)	(1.2%)	(9.9%)
Student Financial Aid	7.1	8.4	1.3	4.5%	18.7%
<b>Total Funding Allocations</b>	<b>106.4</b>	<b>135.9</b>	<b>29.5</b>	<b>100.0%</b>	<b>27.7%</b>

<sup>1</sup> Fiscal allocations exclude departmental revenues

<sup>2</sup> Contributions to UBCV exclude exchange and application fees

<sup>3</sup> Campus-wide expenses exclude salary provision and contingency balances



# 2017/18 OPERATING BUDGET ALLOCATIONS (\$MILLIONS)

<b>Fiscal 2017/18 Outlook</b>	<b>Recurring</b>	<b>One-time</b>	<b>Total</b>
<b><i>Incremental revenue</i></b>			
Tuition	8.5	-	8.5
Provincial Grant	1.2	(0.1)	1.1
Others	0.1	-	0.1
<b>Total incremental revenue</b>	<b>9.8</b>	<b>(0.1)</b>	<b>9.7</b>
Less:			
Faculty share of tuition growth	(3.4)	-	(3.4)
Excellence Fund	(1.6)	-	(1.6)
International Student Financial Aid (SFA)	(0.5)	-	(0.5)
General Wage Increase (GWI) funding	(1.3)	0.2	(1.1)
<b>Incremental revenue</b>	<b>3.0</b>	<b>0.1</b>	<b>3.1</b>
International tuition retained risk - 2017/18	(1.3)	-	(1.3)
International tuition retained risk - 2016/17	0.8	-	0.8
Redistribution of unspent administrative surplus - current year	-	0.5	0.5
Redistribution of unspent administrative surplus - prior years	-	1.6	1.6
<b>Total available for allocations</b>	<b>2.5</b>	<b>2.2</b>	<b>4.7</b>
<b><i>Proposed allocations</i></b>			
Prior Commitments	0.3	0.1	0.4
Strategic Investments			
Teaching and learning experience	0.4	-	0.4
Research excellence	0.3	0.5	0.8
Student engagement	0.2	0.5	0.7
Faculty and staff engagement	0.2	-	0.2
Innovation and service enhancements	0.3	0.3	0.7
Community engagement	0.2	-	0.2
<b>Total Strategic Investments</b>	<b>1.7</b>	<b>1.3</b>	<b>3.0</b>
Risk Areas	-	0.6	0.6
Maintaining Core Services	0.5	0.3	0.8
<b>Total proposed allocations</b>	<b>2.5</b>	<b>2.2</b>	<b>4.7</b>
<b>Net of revenues and allocations (balanced)</b>	<b>0</b>	<b>0</b>	<b>0</b>



# OPERATING FUND (\$MILLIONS)

	Forecast <sup>1</sup> <u>2016/17</u>	Plan <u>2017/18</u>	Increase/ <u>(Decrease)</u>
<b>Revenues</b>			
Provincial government	67.3	68.3	1.0
Undergraduate credit domestic tuition	32.7	34.2	1.5
International undergraduate tuition	24.0	30.4	6.4
Graduate tuition	3.9	4.1	0.2
Research revenues	0.9	0.9	-
Business revenues	1.1	1.1	-
Faculty revenues	0.9	0.8	(0.1)
Central support unit revenues	8.9	9.6	0.7
<b>Total Operating revenues</b>	<b>139.7</b>	<b>149.4</b>	<b>9.7</b>

<sup>1</sup> Forecast is based on projection as at Q3 FY17 forecast.





# OPERATING FUND (\$MILLIONS)

	Forecast <sup>1</sup> <u>2016/17</u>	Plan <sup>2</sup> <u>2017/18</u>	Increase/ <u>(Decrease)</u>
<b><i>Allocations and unit revenues</i></b> <sup>3</sup>			
Faculties	69.9	72.4	2.5
Student Financial Aid	7.4	8.4	1.0
Provost and Vice-Principal Academic	10.8	11.5	0.7
Excellence Fund	0.3	1.4	1.1
Deputy Vice-Chancellor and Principal	3.0	3.1	0.1
Vice-Principal Research	3.1	3.8	0.7
Finance and Operations	25.4	26.8	1.4
Students	8.6	9.0	0.4
Academic	0.1	0.2	0.1
Development and Alumni Engagement	1.7	1.7	-
Human Resources	1.3	1.4	0.1
Campus wide expenses	4.2	4.1	(0.1)
Contribution to UBCV	3.9	4.3	0.4
International Tuition Retained Risk <sup>4</sup>	-	1.3	1.3
<b>Total Allocations and unit revenues</b>	<b>139.7</b>	<b>149.4</b>	<b>9.7</b>

<sup>1</sup> Forecast is based on projection as at Q3 FY17 forecast

<sup>2</sup> Plan is based on preliminary allocations, pending Board approval.

<sup>3</sup> Funding allocations reflect fiscal funding allocations and departmental revenues.

<sup>4</sup> Faculties have planned 15% FTE Growth for International Undergraduate. Limited FTE growth, for purposes of administrative unit allocations to 4%.













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30 March 2017

**To: Okanagan Senate**  
**From: Admissions and Awards Committee**

**Re: Revised Award - Robert B. Harris Award in Management (approval)**

---

The Admissions and Awards Committee is pleased to recommend the following to Senate:

***Motion:** That Senate accept the revised award as listed and forward it to the Board of Governors for approval.*

Existing description (2008):

Award Title: **Robert B. Harris ~~Scholarship~~ Award in Management**

~~Scholarships totalling \$4,900 have been endowed~~ **A \$4,000 award is offered** by Robert B. Harris ~~for students~~ **to a student entering fourth-year** in the Faculty of Management at the University of British Columbia, Okanagan campus. **The award will be given to a student who shows great promise as a future business leader through demonstrated academic strength, an exceptional work ethic, and classroom leadership. Preference will be given to the student who has also shown significant involvement in campus activities.** The awards are made on the recommendation of the Faculty.

Proposed Award Title: **Robert B. Harris Award in Management**

Amended Description:

A \$4,000 award is offered by Robert B. Harris to a student entering fourth-year in the Faculty of Management at the University of British Columbia, Okanagan campus. The award will be given to a student who shows great promise as a future business leader through demonstrated academic strength, an exceptional work ethic, and classroom leadership. Preference will be given to the student who has also shown significant involvement in campus activities. The awards are made on the recommendation of the Faculty.

Rationale: Donor wishes to focus on a fourth year student.

Respectfully submitted,

Dr. Marianne Legault  
Chair, Admissions and Awards Committee



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13 March 2017

**To:** Okanagan Senate  
**From:** Curriculum Committee  
**Re:** Curriculum Proposals (approval)

---

The Curriculum Committee has reviewed the material forwarded to it by the Faculties and encloses those proposals it deems ready for approval.

Therefore, the following is recommended to Senate:

**Motion:** *That Senate approve and recommend to the Board of Governors for approval the 11 new courses, one revised course and two associated discontinued courses brought forward from the Faculty of Applied Science, one new course brought forward from the Faculty of Creative and Critical Studies, and two revised programs and three new courses brought forward by the Faculty of Arts and Sciences.*

- a. From the Faculty of Applied Science
  - i. ENGR 432 (3) Infrastructure Management II (new course)
  - ii. ENGR 431 (3) Infrastructure Management (discontinued course)
  - iii. ENGR 491 (3) Computational Fluid Dynamics (new course)
  - iv. ENGR 492 (3) Finite Element Methods (new course)
  - v. ENGR 582 (3) Finite Element Methods (revised course)
  - vi. ENGR 493 (3) Introduction to Aerodynamics and Aircraft Design (new course)
  - vii. ENGR 494 (3) Autonomous Vehicle Technology (new course)
  - viii. ENGR 535 (3) Autonomous Vehicle Technology (new course)
  - ix. ENGR 495 (3) Tissue Engineering (new course)
  - x. ENGR 519 (3) Tissue Engineering (new course)
  - xi. ENGR 567 (3) Passive Microwave Circuits (new course)
  - xii. ENGR 479 (3) Measurement Principles in Thermal-Fluids (new course)



- xiii. ENGR 498 (3/6)d Special Topics in Engineering (new course)
- xiv. ENGR 449 (3) Special Topics in Civil Engineering (discontinued course)
  
- b. From the Faculty of Creative and Critical Studies
  - i. SPAN 328 (3) The Spanish Inquisition, from Anti-Judaism to Persecution (new course)
  
- c. From the Faculty of Arts and Sciences
  - i. BIOC 494 (3) Biotechnology Laboratory I: DNA Manipulation (new course)
  - ii. BIOC 495 (3) Biotechnology Laboratory II: Gene Expression (new course)
  - iii. Major in Biochemistry and Molecular Biology Program Requirements (revised program)
  - iv. Major in Microbiology Program Requirements (revised program)
  - v. EESC 390 (3) Geological Field Mapping (new course)

For the Committee,

Dr. Peter Arthur  
Chair, Curriculum Committee

## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Deletion of Course and Proposal of New Course	
<b>Rationale:</b> ENGR 431 was moved to third year as ENGR 331 Infrastructure Management I for 2016W. In 2016W, ENGR 331 and ENGR 431 ran concurrently. This new course, ENGR 432 Infrastructure Management II, is a fourth year elective which builds on ENGR 331.	
<b>Proposed Academic Calendar Entry:</b>  N/A – discontinue ENGR 431	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 432 (3) Infrastructure Management II</b></u>  <u><b>Integrated asset management, uncertainty quantification, condition assessment and performance modeling, in-service monitoring and risk-based evaluation, life cycle cost and benefits analysis, prioritization and optimization, advanced GIS implementation. [3-0-0]</b></u> <u><b>Prerequisite: All of ENGR 303, ENGR 305, ENGR 310, ENGR 331.</b></u>	<b>Present Academic Calendar Entry:</b>  <del><b>ENGR 431 (3) Infrastructure Management Introduction to asset management, municipal infrastructure systems, performance and prioritization measures, data management, life cycle costing, decision support tools, integrated approach. Credit will not be granted for both ENGR 431 and ENGR 531. [3-0-0]</b></del> <del><b>Prerequisite: All of ENGR 303, ENGR 305, ENGR 330.</b></del>
<b>Present Academic Calendar Entry:</b>  N/A – create new course ENGR 432	<b>Present Academic Calendar Entry:</b>  N/A – create new course ENGR 432

## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Course	
<p><b>Rationale:</b> Computational fluid dynamics (CFD) uses computers to simulate heat and fluid flows, and is becoming an integral part of many industries, including automotive, aerospace, oil/gas, defense, mining, and health. Engineers are increasingly expected to be familiar with CFD tools. However, there are currently no undergraduate classes focused on CFD. This course will provide an overview of the CFD theory and methods involved in simulating heat and fluid flow. The course will involve an innovative “flipped classroom” approach in which traditional lectures are partially replaced with in-class exercises using open-source CFD software tools.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 491 (3) Computational Fluid Dynamics</b></u>  <u><b>Computational fluid dynamics theory and methods for the numerical simulation of heat and fluid flow. Governing equations, meshing strategies and mesh requirements, finite difference methods, finite volume methods, solution of algebraic systems of equations, compressible flows, turbulence modelling. [3-0-0]. Prerequisite: ENGR 310.</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A

## Curriculum Proposal Form New/Change to Course/Program – Okanagan Campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> New undergraduate course (to be cross-listed with the existing graduate level of the course: ENGR 582).	
<b>Rationale:</b> This new undergraduate 4 <sup>th</sup> -year <i>elective</i> course will be beneficial for Mechanical/ Civil/Electrical Engineering students to learn and apply finite element method (FEM) for numerically solving complex design problems; particularly those related to stress analysis, heat transfer, basic fluid mechanics and electro-mechanical systems. To ensure applicability of the course material to students' specific fields of interest, multi-disciplinary design and optimization projects will be defined and solved in groups, composed of undergraduate and graduate students. Through the latter interaction, undergraduate students will also have the opportunity to further comprehend and practice complex mathematical concepts covered during the lectures.	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 492 (3) Finite Element Methods</b></u>  <u><b>Finite Element Discretization, Direct Stiffness Method, Numerical Solution of Large Deformations, Formulation of Finite Elements, Auxiliary Equations, Thermomechanical Analysis, Computer Implementation of the Finite Element Methods, Case Studies in Material Forming and Multi-Physics. Credit will be granted for only one of ENGR 492 or ENGR 582. [3-0-0].</b></u> <u><b>Prerequisite: APSC 256</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A

<p><b>Present Academic Calendar Entry:</b></p> <p><b>ENGR 582 (3) Finite Element Method</b></p> <p>Finite element discretization, direct stiffness method, numerical solution of large deformations, formulation of finite elements, auxiliary equations, thermomechanical analysis. Computer implementation of finite element methods, case studies in metal forming, and multi-physics. <b><u>Credit will be granted for only one of ENGR 492 or ENGR 582.</u></b></p>	<p><b>Present Academic Calendar Entry:</b></p> <p><b>ENGR 582 (3) Finite Element Method</b></p> <p>Finite element discretization, direct stiffness method, numerical solution of large deformations, formulation of finite elements, auxiliary equations, thermomechanical analysis. Computer implementation of finite element methods, case studies in metal forming, and multi-physics.</p>
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## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Course	
<p><b>Rationale:</b> Aerodynamics and aircraft design is currently absent from the undergraduate curriculum despite significant interest among students. This course aims to introduce key elements in applied aerodynamics in the context of the conceptual design process for fixed-wing aircraft. The course will focus on estimating the aircraft weight, fuel load, lift, thrust, airfoil and wing specification, engine selection and sizing, and structural loads. The design approach is applied to an individual design project in which students develop their own aircraft concepts to achieve an assigned set of requirements.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 493 (3) Introduction to Aerodynamics and Aircraft Design</b></u>  <u><b>Aircraft conceptual design: methods for estimating aircraft weight, fuel load, lift, thrust, airfoil and wing specification, engine selection and sizing, and structural loads. Introductory aerodynamics of airfoils and wings. [3-0-0]. Prerequisite: ENGR 310.</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/p/roof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/p/roof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A

## Curriculum Proposal Form New/Change to Course/Program – Okanagan Campus

Category: 1	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Cross-listed Courses	
<b>Rationale:</b> This new course is added to provide an introduction to autonomous vehicle technology including unmanned aerial vehicles (UAVs) and automated vehicles at both undergraduate and graduate levels in the School of Engineering, Faculty of Applied Science. The course will prepare the students for the growing job market of the emerging technologies in automotive and aerospace industries.	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 494 (3) Autonomous Vehicle Technology</b></u>  <u><b>Autonomous navigation: perception, localization and mapping, motion planning, and motion control; and applications to unmanned aerial vehicles (UAVs), automated vehicles and self-driving cars. Credit will be granted for only one of ENGR 494 or ENGR 535. [3-0-0]. Prerequisite: ENGR480</b></u>  <u><b>ENGR 535 (3) Autonomous Vehicle Technology</b></u>  <u><b>Autonomous navigation: perception, localization and mapping, motion planning, and motion control; and applications to unmanned aerial vehicles (UAVs), automated vehicles and self-driving cars. Credit will be granted for only one of ENGR 494 or ENGR 535.</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A

## Curriculum Proposal Form New/Change to Course/Program – Okanagan Campus

Category: <b>1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161122 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Cross-listed Courses	
<p><b>Rationale:</b> This new course is added to introduce tissue engineering to both undergraduate and graduate-level students in the School of Engineering, Faculty of Applied Science. The course will provide fundamental understandings of materials, fabrication methods, and applications of artificial tissue scaffolds for students who are interested in emerging biomanufacturing and biofabrication research area.</p>	
<p><b>Proposed Academic Calendar Entry:</b></p> <p><b><u>ENGR 495 (3) Tissue Engineering</u></b></p> <p><b><u>Fundamentals of cell biology; extracellular matrix, receptors, and cell-cell and cell-matrix interactions at both the theoretical and experimental levels; effects of physical, chemical, and electrical stimuli on cell function; tissue structure and function and the clinical need for tissue repair; scaffold design and processing for tissue engineering. Credit will be granted for only one of ENGR 495 or ENGR 519. [3-0-0]</u></b></p> <p><b><u>Prerequisite: Fourth-year standing.</u></b></p> <p><b><u>ENGR 519 (3) Tissue Engineering</u></b></p> <p><b><u>Fundamentals of cell biology; extracellular matrix, receptors, and cell-cell and cell-matrix interactions at both the theoretical and experimental levels; effects of physical, chemical, and electrical stimuli on cell function; tissue structure and function and the clinical need for tissue repair; scaffold design and processing for tissue engineering. Credit will be</u></b></p>	<p><b>Draft Academic Calendar URL:</b>  <a href="http://www.calendar.ubc.ca/okanagan/prof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/prof/edit/courses.cfm?go=code&amp;code=ENGR</a></p> <p><b>Present Academic Calendar Entry:</b>          N/A</p>



**granted for only one of ENGR 495 or ENGR 519.**

## Curriculum Proposal Form New/Change to Course/Program – Okanagan Campus

<b>Category: 1</b>	
<b>Faculty/School:</b> Applied Science <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.09 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161215 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> New Course	
<p><b>Rationale:</b> This new course is being added to accommodate a growing number of graduate students in the School of Engineering with research interests in microwave engineering. Such a course will be of interest to graduate students in electrical engineering and the applied physical sciences.</p> <p>Electrical circuits at microwave frequencies cannot be designed without accounting for the wave behaviour of signals. Traditional circuit analysis does not account for wave interference and must be replaced with transmission-line analysis. Students will learn to analyze and design microwave circuits with particular emphasis on passive networks such as couplers and power dividers.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 567 (3) Passive Microwave Circuits</b></u>  <u><b>Electromagnetic waves, transmission lines, waveguides, network parameters, Smith Charts, gain equations, even-odd mode analysis, matching networks, power dividers, couplers, metamaterials, and dispersion.</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  n/a

## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.31 <b>Effective Session:</b> 2017W	<b>Date:</b> 20170115 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Course	
<p><b>Rationale:</b> This new course is added to enhance the teaching and learning of thermal and fluidic sciences in the School of Engineering, Faculty of Applied Science. The course is targeted at undergraduate students mainly in mechanical engineering. Students will learn experimental and measurement techniques and apply the techniques in designing thermal-fluid systems.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR 479 (3) Measurement Principles in Thermal-Fluids</b></u>  <u><b>Instruments and methods of measuring fluid thermo-physical properties.</b></u> <u><b>Pressure-based velocity measurements.</b></u> <u><b>Thermal anemometry. Particle-based techniques for velocity measurement.</b></u> <u><b>Sonic anemometry/thermometry.</b></u> <u><b>Measurement of flow pressure and density. Measurement techniques for temperature and heat flux.</b></u> <u><b>Fundamentals of data processing and analysis. [3-0-0].</b></u> <u><b>Prerequisite: ENGR 310, ENGR 385</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A

## Curriculum Proposal Form New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> School of Engineering <b>Dept./Unit:</b> School of Engineering <b>Faculty/School Approval Date:</b> 2017.01.31 <b>Effective Session:</b> 2017W	<b>Date:</b> 20170116 <b>Contact Person:</b> Dr. Yang Cao <b>Phone:</b> 250.807.9643 <b>Email:</b> yang.cao@ubc.ca
<b>Type of Action:</b> Creation of New Course	
<p><b>Rationale:</b> This school would like to take advantage of available sessional teaching resources and offer courses in specific areas on an irregular basis. As such we would like to create a special topics course code for the engineering program. This course code will be utilized across all three program thus negating the need for the ENGR 449 special topics in civil engineering course.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>ENGR498 (3/6)d Special Topics in Engineering</b></u>  <u><b>Topics in engineering not covered in other technical electives. Students should consult the School of Engineering for the particular topics offered in a given year. This course may not be offered every year. [3-0-0]</b></u> <u><b>Prerequisite: Fourth-year standing in the B.A.Sc. Program and approval of the Associate Director of Undergraduate Studies.</b></u>	<b>Draft Academic Calendar URL:</b> <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR">http://www.calendar.ubc.ca/okanagan/proof/edit/courses.cfm?go=code&amp;code=ENGR</a>  <b>Present Academic Calendar Entry:</b>  N/A   <b>Present Academic Calendar Entry:</b>  <del><b>ENGR 449 (3) Special Topics in Civil Engineering</b></del> <del><b>Topics in civil engineering not covered in other technical electives. Students should consult the School of Engineering for the particular topics offered in a given year. This course may not be offered every year. [3-0-0]</b></del> <del><b>Prerequisite: Fourth-year standing in the B.A.Sc. Program and approval of the Unit Head.</b></del>

**Curriculum Proposal Form**  
**New/Change to Course/Program – Okanagan campus**

<b>Category: 1</b>	
<b>Faculty/School:</b> Faculty of Creative & Critical Studies <b>Dept./Unit:</b> Critical Studies <b>Faculty/School Approval Date:</b> 2016/11/18 <b>Effective Session:</b> 2017W1	<b>Date:</b> 2016/10/02 <b>Contact Person:</b> Dr. Francisco Peña <b>Phone:</b> 250.807.8044 <b>Email:</b> francisco.pena@ubc.ca
<b>Type of Action:</b> New Course	
<b>Rationale:</b> This course adds a new perspective to the current Spanish offerings by promoting a more interdisciplinary, transcultural and trans-historical approach to the study of literature.	
<b>Proposed Academic Calendar Entry:</b>  <u><b>SPAN 328 (3) The Spanish Inquisition, from Anti-Judaism to Persecution</b></u>  <u><b>Survey and analysis of the ideological background and historical development of the Spanish Inquisition in the context of western anti-Judaism. [3-0-0]</b></u>  <u><b>Pre-requisite: Third-year standing.</b></u>	<b>Draft Academic Calendar URL:</b> n/a  <b>Present Academic Calendar Entry:</b> none

## Curriculum Proposal Form New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> IKBSAS <b>Dept./Unit:</b> Unit 2 <b>Faculty/School Approval Date:</b> 20170206 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161124 <b>Contact Person:</b> Dr. Mary Forrest <b>Phone:</b> 250.807.9560 <b>Email:</b> mary.forrest@ubc.ca
<b>Type of Action:</b> Add new course	
<b>Rationale:</b> Dividing the course content from BIOC 493 (proposed to be deleted) into two one-semester courses (BIOC 494, 495), each with four hour long labs that run each week, will make it easier for student scheduling needs plus add needed hours into the course.  Furthermore, it will bring the requirements more in line with other laboratory courses. It will also allow for more in-depth coverage of the theory behind the techniques covered and analysis of the results obtained.  In addition, this course is becoming increasingly popular. Shorter labs will allow for the addition of more lab sections as needed.	
<b>Proposed Academic Calendar Entry:</b>  <u><b>BIOC 494 (3) Biotechnology Laboratory I: DNA Manipulation</b></u>  <u><b>Current techniques in DNA manipulation and analysis will be presented, relevant to such areas as molecular biology, microbiology, and biochemistry. Topics include site- directed mutagenesis, variations in cloning techniques, sequence analysis, Southern blotting, plus maintenance of a research lab notebook. [0-4-0]</b></u> <u><b>Prerequisite: one of BIOC 393 or BIOL 393. BIOL 366 is strongly recommended.</b></u>	<b>Draft Academic Calendar URL:</b> N/A  <b>Present Academic Calendar Entry:</b> N/A

## Curriculum Proposal Form New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> IKBSAS <b>Dept./Unit:</b> Unit 2 <b>Faculty/School Approval Date:</b> 20170206 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161124 <b>Contact Person:</b> Dr. Mary Forrest <b>Phone:</b> 250.807.9560 <b>Email:</b> mary.forrest@ubc.ca
<b>Type of Action:</b> Add new course	
<b>Rationale:</b> Dividing the course content from BIOC 493 (proposed to be deleted) into two one-semester courses (BIOC 494, 495), each with four hour long labs that run each week, will make it easier for student scheduling needs plus add needed hours into the course.  Furthermore, it will bring the requirements more in line with other laboratory courses. It will also allow for more in-depth coverage of the theory behind the techniques covered and analysis of the results obtained.  In addition, this course is becoming increasingly popular. Shorter labs will allow for the addition of more lab sections as needed.	
<b>Proposed Academic Calendar Entry:</b>  <u><b>BIOC 495 (3) Biotechnology Laboratory II: Gene Expression</b></u>  <u><b>Current methods in gene expression will be presented, relevant to such areas as molecular biology, microbiology, and biochemistry.</b></u> <u><b>Topics include extraction, handling and manipulation of RNA, analysis of gene expression (transcriptional), production of recombinant proteins, and genetic transformation of eukaryotes. [0-4-0].</b></u>  <u><b>Prerequisite: BIOL 366 and one of BIOC 393, BIOL 393.</b></u>	<b>Draft Academic Calendar URL:</b> N/A  <b>Present Academic Calendar Entry:</b> N/A

## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> IKBSAS <b>Dept./Unit:</b> Unit 2 <b>Faculty/School Approval Date:</b> 20170206 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161124 <b>Contact Person:</b> Dr. Mary Forrest <b>Phone:</b> 250.807.9560 <b>Email:</b> mary.forrest@ubc.ca
<b>Type of Action:</b>  Revision to Calendar Description <ul style="list-style-type: none"> <li>• deletion of BIOC 493 (currently a 3 credit two semester course) with material to be divided into two new 3 credit one semester courses: BIOC 494 and BIOC 495             <ul style="list-style-type: none"> <li>○ revise the Biochemistry and Molecular Biology Major and the Microbiology Major to reflect this change</li> </ul> </li> </ul>	
<b>Rationale:</b>  <p>BIOC 493 (Biotechnology Laboratory) currently consists of a series of 6 hour labs that run every other week over the entire winter semester (Terms 1 and 2). Students find it very difficult to schedule other courses around these large bi-weekly time blocks. Plus many students find the 6 hours long labs very grueling to complete.</p> <p>Dividing the course into two one-semester courses, each with four hour long labs that run each week, will make it easier for student scheduling needs plus add needed hours into the course.</p> <p>Currently, the course consists of up to 70 hours of lab time, an extensive focus on writing (both in the maintenance of a proper research-style lab notebook and in a formal lab report), plus multiple assignments and lab exams. This is excessive for a single 3 credit lab course, especially in comparison to other laboratory courses such as BIOL/BIOC 393.</p> <p>Dividing the content into two courses, each with four hour long labs offered each week, will bring the requirements more in line with other laboratory courses. It will also allow for more in-depth coverage of the theory behind the techniques covered and analysis of the results obtained.</p> <p>In addition, this course is becoming increasingly popular. Shorter labs will allow for the addition of more lab sections as needed.</p>	



<p><b>Proposed Academic Calendar Entry:</b></p> <p><b>[12218] Major in Biochemistry and Molecular Biology</b></p> <p>[...]</p>	<p><b>Draft Academic Calendar URL:</b>  <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/index.cfm?tree=18,282,858,1069">http://www.calendar.ubc.ca/okanagan/proof/edit/index.cfm?tree=18,282,858,1069</a></p> <p><b>Present Academic Calendar Entry:</b></p> <p><b>[12218] Major in Biochemistry and Molecular Biology</b></p> <p>[...]</p>
<p><b>Third and Fourth Years</b></p>	<p><b>Third and Fourth Years</b></p>
<p>BIOC 304, 305 6</p> <p>BIOL 366 3</p> <p>BIOC 393 3</p> <p>Arts electives 6</p>	<p>BIOC 304, 305 6</p> <p>BIOL 366 3</p> <p>BIOC 393 3</p> <p>Arts electives 6</p>
<p><b>Biochemistry Option</b></p>	<p><b>Biochemistry Option</b></p>
<p>Three of BIOC 402, 403, 405, 410, 420, 425 9</p> <p>CHEM 305 3</p> <p>Two of CHEM 304, 330, 333, 335, BIOC 493 6</p> <p>Upper-level science elective 6</p> <p>Upper-level arts or science electives 6</p> <p>Electives 12</p>	<p>Three of BIOC 402, 403, 405, 410, 420, 425 9</p> <p>CHEM 305 3</p> <p>Two of CHEM 304, 330, 333, 335, BIOC 493 6</p> <p>Upper-level science elective 6</p> <p>Upper-level arts or science electives 6</p> <p>Electives 12</p>
<p><b>Medical and Molecular Biology Option</b></p>	<p><b>Medical and Molecular Biology Option</b></p>
<p>BIOC 308, 309 6</p> <p>Two of BIOC 402, 403, 405, 410 6</p> <p>BIOC 407 3</p> <p>BIOC <b>494, 495<sup>1</sup></b> <b>6</b></p> <p>BIOL 318 3</p> <p>Two of BIOL 312, 314, 341, 363 6</p> <p>Electives 12</p>	<p>BIOC 308, 309 6</p> <p>Two of BIOC 402, 403, 405, 410 6</p> <p>BIOC 407 3</p> <p>BIOC <b>493<sup>1</sup></b> <b>3</b></p> <p>BIOL 318 3</p> <p>Two of BIOL 312, 314, 341, 363 6</p> <p><del>Upper-level elective</del> <b>3</b></p>

Total Credits	60	Electives	12
Minimum credits for degree	120	Total Credits	60
		Minimum credits for degree	120
<p><sup>1</sup> BIOC <b><u>494 and 495</u></b> (Biotechnology Laboratory <b><u>I and II</u></b>) can be replaced by BIOC 448, a 6-credit lab-based directed studies course, though students may take both. Note: <b><u>credit will be granted for only one of BIOC 393 or BIOL 393, and credit will only be granted for one of BIOC 493 and either BIOC 494 or BIOC 495.</u></b></p>		<p><sup>1</sup> BIOC <b><u>493</u></b> (Biotechnology Laboratory) can be replaced by BIOC 448, a 6-credit lab-based directed studies course, though students may take both. Note: <del><b><u>BIOC 393 and 493 are equivalent to BIOL 393 and 493 and credit will not be granted for both.</u></b></del></p>	

## Curriculum Proposal Form

### New/Change to Course/Program – Okanagan campus

<b>Category: 1</b>	
<b>Faculty/School:</b> IKBSAS <b>Dept./Unit:</b> Unit 2 <b>Faculty/School Approval Date:</b> 20170206 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161124 <b>Contact Person:</b> Dr. Mary Forrest <b>Phone:</b> 250.807.9560 <b>Email:</b> mary.forrest@ubc.ca
<b>Type of Action:</b>  Revision to Calendar Description <ul style="list-style-type: none"> <li>• deletion of BIOC 493 (currently a 3 credit two semester course) with material to be divided into two new 3 credit one semester courses: BIOC 494 and BIOC 495             <ul style="list-style-type: none"> <li>○ revise the Biochemistry and Molecular Biology Major and the Microbiology Major to reflect this change</li> </ul> </li> </ul>	
<b>Rationale:</b>  <p>BIOC 493 (Biotechnology Laboratory) currently consists of a series of 6 hour labs that run every other week over the entire winter semester (Terms 1 and 2). Students find it very difficult to schedule other courses around these large bi-weekly time blocks. Plus many students find the 6 hours long labs very grueling to complete.</p> <p>Dividing the course into two one-semester courses, each with four hour long labs that run each week, will make it easier for student scheduling needs plus add needed hours into the course.</p> <p>Currently, the course consists of up to 70 hours of lab time, an extensive focus on writing (both in the maintenance of a proper research-style lab notebook and in a formal lab report), plus multiple assignments and lab exams. This is excessive for a single 3 credit lab course, especially in comparison to other laboratory courses such as BIOL/BIOC 393.</p> <p>Dividing the content into two courses, each with four hour long labs offered each week, will bring the requirements more in line with other laboratory courses. It will also allow for more in-depth coverage of the theory behind the techniques covered and analysis of the results obtained.</p> <p>In addition, this course is becoming increasingly popular. Shorter labs will allow for the addition of more lab sections as needed.</p>	

<p><b>Proposed Academic Calendar Entry:</b></p> <p><b>[14436] Major in Microbiology</b></p> <p>[...]</p>	<p><b>Draft Academic Calendar URL:</b>  <a href="http://www.calendar.ubc.ca/okanagan/proof/edit/index.cfm?tree=18,282,858,1242">http://www.calendar.ubc.ca/okanagan/proof/edit/index.cfm?tree=18,282,858,1242</a></p> <p><b>Present Academic Calendar Entry:</b></p> <p><b>[14436] Major in Microbiology</b></p> <p>[...]</p>																																												
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<p><sup>3</sup> If approved by the program advisor as appropriate to Microbiology.</p> <p><sup>4</sup> <u><b>BIOC 494 and BIOC 495 may both be used towards the requirement to take 30 credits of upper level BIOL courses in the Major in Microbiology.</b></u></p> <p><u><b>Note: credit will be granted for only one of BIOC 393 or BIOL 393, and one of BIOC 493 and either BIOC 494 or BIOC 495.</b></u></p>	<p><sup>3</sup> If approved by the program advisor as appropriate to Microbiology.</p> <p><sup>4</sup> <del><b>Students who take BIOC 493 will need to take a BIOL course under the Science electives numbered 300 or higher section to ensure they meet graduation requirements.</b></del></p>
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## Curriculum Proposal Form New/Change to Course/Program – Okanagan Campus

<b>Category: 1</b>	
<b>Faculty/School:</b> IKBSAS <b>Department/Unit:</b> Unit 7 <b>Faculty Approval Date:</b> 20170206 <b>Effective Session:</b> 2017W	<b>Date:</b> 20161209 <b>Contact Person:</b> Dr. Kyle Larson <b>Phone:</b> 250.807.8564 <b>Email:</b> <a href="mailto:kyle.larson@ubc.ca">kyle.larson@ubc.ca</a>
<b>Type of Action:</b> New course	
<p><b>Rationale:</b> This course will enhance the tangible, hands-on, experiential learning that students gain during their undergraduate studies. This course is specifically focused on training students in the geologic field techniques standard in both academia and industry. This is a foundation course in the students' academic careers and prepare them for future work where skills such as field observation, data assimilation, hypothesis-driven directed study, and interpretation are widely applicable. To that end, it provides an opportunity for students to utilize the skills they have acquired in other courses (e.g. EESC 200; 325; 356) to elucidate real-world geological problems. Students will be trained in the rationale behind field research, how to parse often contradictory data and observations, and how to distill that into a unified, internally consistent geologic model. It is expected that this course will be eligible for students to take toward course requirements for registration with the Association of Professional Engineers and Geoscientists of British Columbia.</p>	
<b>Proposed Academic Calendar Entry:</b>  <u><b>EESC 390 (3) Geological Field Mapping</b></u>  <u><b>Collection, interpretation, and presentation of geological data in the field. Typically held in the two weeks preceding the start of Winter Term 1. A special fee must be paid in advance.</b></u> <u><b>Prerequisites: EESC 200, EESC 325 and EESC 356.</b></u>	<b>Draft Academic Calendar URL:</b> N/A  <b>Present Academic Calendar Entry:</b>  none



30 March 2017

To: Okanagan Senate

From: Nominating Committee

Re: Adjustments to Committee Assignments

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The Senate Nominating Committee has been advised of one vacancy and one request for re-assignment from standing Committees of Senate and is pleased to recommend:

*That Mr Myron Campbell be appointed to the Senate Admissions & Awards Committee until 31 August 2017 and thereafter until replaced, to replace Ms Anne Fleming (Resigned); and*

*That Mr Myron Campbell be appointed to the Senate Committee on Appeals of Discipline and Standing until 31 August 2017 and thereafter until replaced, to replace Dr Marianne Legault.*

Respectfully submitted,

Dr Daniel Keyes, Chair  
Senate Nominating Committee

# Documenting Learning in the 21<sup>st</sup> Century

## *Comprehensive Learning Record Green Paper*

*A presentation to the Senates of The University of British  
Columbia*

*March 2017*





# Comprehensive Learning Record

The proposed comprehensive learning record is more than a grades and awards archive; it is a tool that:

- Enables students and the University to **partner** in documenting students' learning journeys;
- Encapsulates the **diverse ways** that learning takes place during a post-secondary career;
- Communicates the story "**between the lines**" of letter and number grades;
- Facilitates **reflection** within and across formal and informal learning contexts.



# The Need

- UBC inspires diverse forms of **transformative** student learning
- The current transcript offers a poor representation of **only a fraction** of that learning
- What the University records sends **a message about what it values**
- Student expectations - learning **in and out** of the classroom is valued and recognized.



# The Constraints

- The traditional transcript continues to fulfill a **vital function** in post-secondary education
- **No additional significant burden** on Faculty-members
- Aging technological systems



# The Challenge

- How to create a comprehensive record of the diverse student learning that takes place at UBC, alongside the development of new student academic systems, while preserving the vital function of the traditional transcript and respecting the value of faculty-members' time.

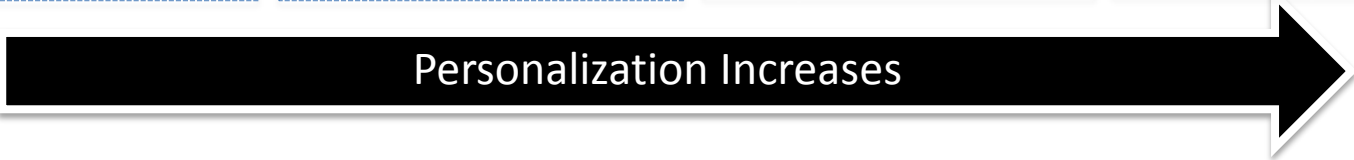
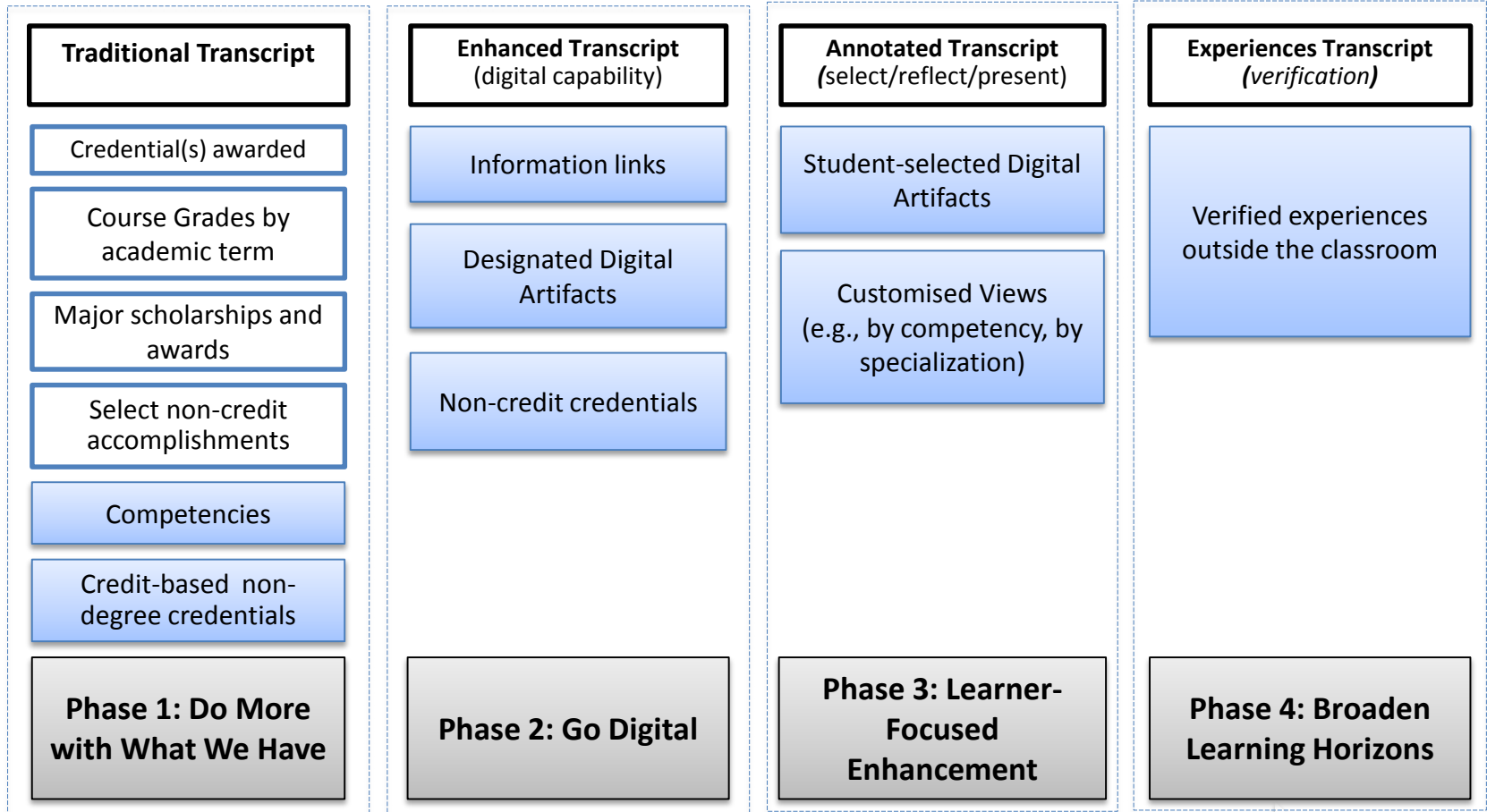


# The Proposal

- Use the existing transcript as a launching point
- Build a repository of information around the transcript
- Involve students in curating a record of their learning to encourage critical reflection on the learning process as it occurs
- Enable students to activate different 'views' of the record, including and excluding information to tailor the record to different purposes
- Establish protocols to ensure the veracity and integrity of any record produced by 'UBC'.



## Comprehensive Record Phases



# Phase 1

- **Do More With What We Have**
  - Add information to existing transcript without significant changes to the nature of the record



## Phase 2

- **Go Digital**
  - Enhance existing transcript with digital capabilities allowing for connection to:
    - Syllabi
    - Award Descriptions
    - Digital Artifacts (academic work associated with for-credit courses)
    - Non-credit credentials





## Phase 3

- **Learner-Focused Enhancement**
  - Student-selected digital artifacts
    - Empower students to decide which academic work best represents their learning
  - Customized views
    - Grant students and other users the ability to generate custom reports



# Phase 4

- Broaden Learning Horizons
  - Addition of extra-curricular, co-curricular and other non-credit learning experiences to the learning record



## UBC Documenting Learning in the 21<sup>st</sup> Century

### Purpose:

**The purpose of this Green Paper is to introduce to the University of British Columbia Vancouver and Okanagan Senates the concept of a “Comprehensive Learning Record” and to seek input on the merits of exploring such an initiative from a variety of stakeholders including students, Faculties, alumni, employers, and professional schools, amongst others.**

### Introduction:

UBC has identified as an institutional priority the provision of opportunities for transformative student learning through outstanding teaching and research, enriched educational experiences, and rewarding campus life.

Despite this commitment, the record that UBC currently keeps of students' nuanced and transformative learning journeys is limited to the set of courses, grades, standings and awards represented in the official transcript. In contrast, the development of co-curricular records (CCR) is a trending initiative across post-secondary institutions in Canada and the USA. Similarly, in the United Kingdom, the [Higher Education Achievement Report \(HEAR\)](#) has been adopted across many institutions of higher education. The common feature of these initiatives is that they record student participation in learning activities that are not usually listed in current official transcripts, typically extra- and co-curricular activities.

The Senate *ad hoc* Committee on Flexible Learning recognizes the value of these records and believes that they would represent an improvement over the existing UBC transcript. However, the Committee does not propose to simply follow this trend, but rather believes that UBC is well-positioned to stake out new ground through the creation of a “Comprehensive Learning Record” (CLR). The Committee envisions a record aimed not only at recording student experience and achievement for use at the conclusion of the post-secondary career, but at encouraging student reflection and enhancing student learning to assist students in directing their education as it occurs.

Given advances in our understanding of how people learn, growing interest among students for recognition of a broader range of their activities at University, changing trends in records provision at peer institutions, requirements for career success, and increased expectations of public accountability in post-secondary education, the Senate *ad hoc* Committee on Flexible Learning proposes the CLR as a new way to enable students and the University to document, reflect upon, and represent the learning outcomes achieved throughout the achievement of a UBC degree.

### Background and Rationale

UBC, as an institution and a community, inspires learning that takes place in many ways. In addition to structured, for-credit courses, students learn through experiences such as student governance, teaching assistant training, professional development workshops, undergraduate research, workplace learning, peer leadership programs, community based learning and research, student clubs, athletics, and international learning experiences. The value of learning that takes place outside of the formal curriculum is well understood. Students gain a wide range of skills and knowledge through engagement in extra- and co-curricular experiences, particularly in the domains emphasized by employers as critical for career

success.<sup>1</sup> Moreover, the greater a student's integration into the fabric of an institution, including through participation in extra and co-curricular activities, the more likely they are to persist until degree completion.<sup>2</sup>

Despite the growing consensus around the importance of a comprehensive post-secondary experience and the value of extra and co-curricular activities, the formal record of learning maintained by UBC, like that of many post-secondary institutions, continues to emphasize to students the primacy of in-class, for credit learning. For many students, the sole form of learning actively tracked and 'counted' by the institution is for-credit coursework in the form of a final grade intended to represent the student's cumulative performance in a given course.

This disconnect between how learning occurs and how it is recorded represents an opportunity for the institution to reframe how it communicates to students what counts as learning, acknowledge that universities are complex enterprises for learning and to develop a means of recognizing and valuing learning that is not formally assessed within an academic program. With a strategic and considered approach, UBC stands to improve the way that it supports transformative student learning and the preparation of career ready graduates.

As part of this approach, the Senate *Ad Hoc* Committee on Flexible Learning proposes the creation of an 'comprehensive learning record' that will recognize and record student learning and achievement beyond what is represented by final grades in for-credit courses. In doing so, the institution can further communicate to students that the institution values learning that takes place outside of for-credit courses, encourage students to pursue diverse opportunities for learning, and assist students in planning co-curricular and extra-curricular experiences that complement their academic studies. By expanding the manner in which learning is recorded, the institution challenges itself to provide and support opportunities for more diverse forms of learning.

The development of enhanced records is not without precedent in North America. The first co-curricular records and student development transcripts were introduced in the American institutions in the 1970s and 80s. The first Canadian institutions to introduce CCRs were Brock University, Sir Wilfrid Laurier University and the University of Calgary in 2000<sup>3</sup>. At present, more than 50 Canadian post-secondary institutions have launched CCR programs or are in the process of doing so. While these records improve on the traditional transcript in many respects, they largely represent an expansion of the information the traditional transcript makes available, rather than a fundamental re-thinking of the of the nature and purpose of a record of student learning.

Rather than following the lead of these institutions, becoming a late-adopter of a 'traditional' co-curricular record, the Senate *ad hoc* Committee on Flexible Learning proposes that UBC become a leader in this area by developing a unique tool that not only records, but contributes to student learning. This "Comprehensive Learning Record" would be aimed first and foremost at assisting students in understanding their own knowledge, values and strengths, and secondly at communicating student experience and learning to external audiences such as prospective employers and academic institutions. This tool would help students to identify gaps in their knowledge and experience, understand how co-curricular and extra-curricular activities complement their academic study and facilitate student self-assessment and reflection on the learning that has occurred both inside and outside of the classroom. It would also assist educators and advisors in helping students to understand their own development, and

<sup>1</sup> Employer Priorities for Most Important College Learning Outcomes. Association of American Colleges & Universities, 2015. <http://www.aacu.org/leap/public-opinion-research/2015-employer-priorities>

<sup>2</sup> V. Tinto, Taking Retention Seriously: Rethinking the First Year of College, *NACADA Journal*, Vol. 19, Issue 2

<sup>3</sup> Elias, Kimberly & Drea, Catherine (2013). The Co-curricular record: Enhancing a postsecondary education. *College Quarterly*, Vol. 16, Issue 1

counsel students on their academic and professional futures.<sup>4</sup>

With the coincidence of North American and British initiatives, the growing recognition of the value of co-curricular records and the ongoing effort to replace UBC's Student Information System, the Senate Ad Hoc Committee on Flexible Learning feels that the time is right for UBC to envision a Comprehensive Learning Record that does more than record courses and grades.

### **Proposed Concept:**

The proposed Comprehensive Learning Record would build upon the content of the existing student record. At UBC, a student's official record comprises data and information contained within a suite of databases and software systems called the Student Information System. The business owner of the learning record is the University Registrar. The best-known representation of the learning record is the transcript. This official document is the institution's primary summary of what an individual has been credited with, learned and accomplished while they are a registered student. Typically a transcript includes credentials awarded, credits transferred, courses taken, grades earned, scholastic achievements (e.g., scholarships) and select "zero credit" activities (e.g., Instructional Skills certificate).

The strength of the existing transcript is that it succinctly captures a student's academic history and accomplishments in a format accepted and easily understood by educational institutions and other organizations throughout Canada and the world. However, in order to achieve this end, the existing transcript makes significant sacrifices in the quantity and quality of information provided to the reader, limiting the reader's ability to understand what is really represented by a listed item. With respect to courses, for example, the grade and standing are recorded, but there is nothing beyond the course name that captures information such as how the student was assessed, what their key learning gains were and what significant evidence of learning (e.g., a paper, a community project) were produced. For entries such as scholarships, the transcript provides no information, beyond the title of the award, regarding the nature or significance of the award or the basis upon which the student was selected.

The transcript serves a distinct and important purpose. The introduction of a Comprehensive Learning Record would not necessarily change or replace the current transcript. Instead, the vision of the Flexible Learning Ad Hoc Committee is to retain the transcript, using it as a launching point from which to build an innovative, new type of learning record.

This new learning record would draw upon existing transcript data, possibly augmented using technology, while also serving as a primary collection mechanism for additional data and information.

The information found in the traditional transcript would remain unaltered as part of the new record, and would continue to be controlled by the University, preserving the integrity of the transcript, and ensuring that it can continue to serve its essential function.

To this core information, the proposed comprehensive record would add new information providing further evidence of learning occurring inside of or outside of formally recognized, Senate-approved courses. This information could include content related a student's academic achievements, such as syllabi from courses completed by the student, examples of written or other coursework, written peer evaluations, or reflections authored by the student. It could also include information about experiential learning opportunities, extra-curricular educational activities and leadership roles. This content would be co-constructed by the university, students, and individuals or organizations within or outside of the

<sup>4</sup> Drolet, Daniel (2010) Documenting and decoding the undergrad experience. University Affairs, Vol. 51, Issue 7

University that have played a role in delivering these experiences.

Given the volume of the totality of the information contained in the comprehensive learning record, the record may be best understood as a database used to generate reports or “views” tailored to different purposes, rather than a single, static report. Students and other users could be permitted to ‘activate’ or ‘deactivate’ different entries or categories of information and reorganize the selected information in order to emphasize different features of their post-secondary career. This capability will empower students to view their UBC experience from different perspectives, encouraging reflection and assisting in academic and career planning while also serving as a valuable resource in preparing applications for employment and further study.

With proper regard to privacy considerations, this capacity to create tailored reports may be valuable to other users of the system as well. Advisors engaged in counselling students could use this function to assist students in identifying themes and trends in their post-secondary careers, while instructors and administrators may be able to use this system to examine student reflection on and performance in a course or program over time to gain a better understanding of the impact and value to students of different features of the course or program, and how these change over time.

In these ways, the proposed record will serve not simply as a list of experiences and achievements that can be delivered to external audiences when the student leaves UBC. The Comprehensive Learning Record will be a tool that will build student understanding of the learning experience as it occurs, assisting students in tailoring their post-secondary careers towards their interests and goals while also helping educators and administrators to better understand the complete student experience and to ultimately deliver an improved experience in the future.

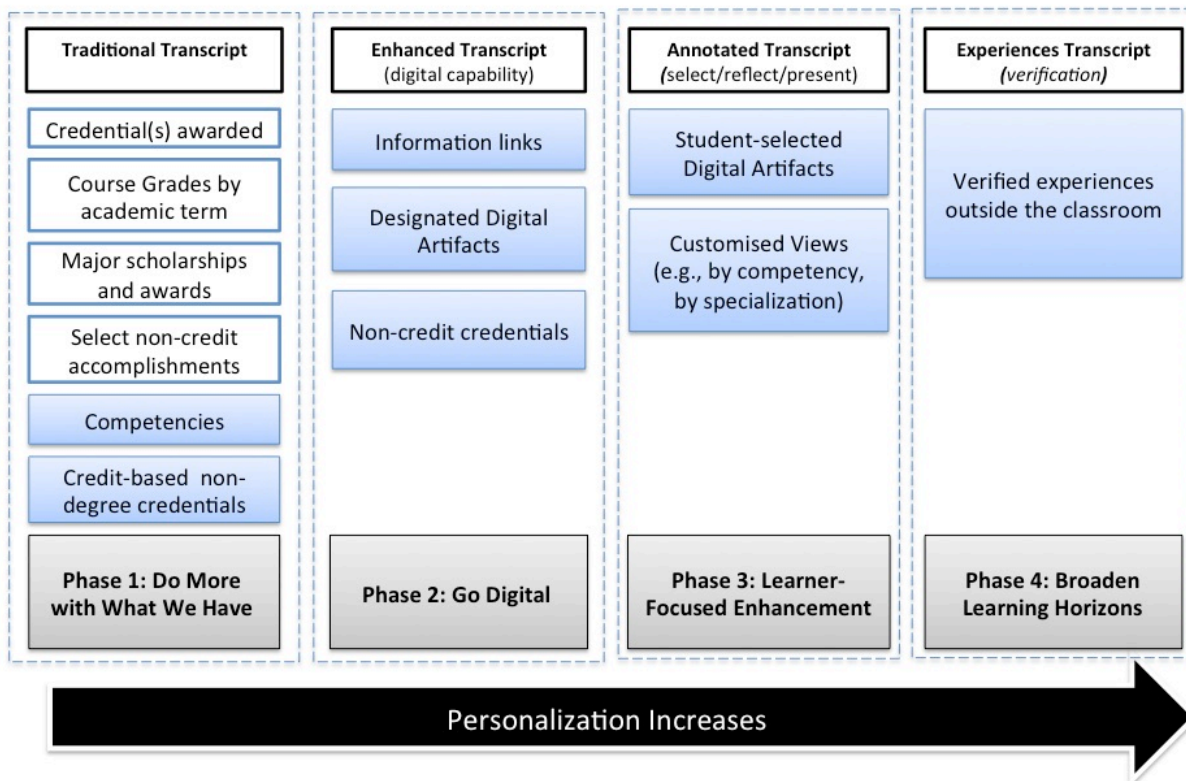
### **Implementation:**

While the complete details of the implementation of the Comprehensive Learning Record are beyond the scope of this document, the Senate *ad hoc* Committee on Flexible Learning proposes a phased approach to adoption of the record.

As elements of the Comprehensive Learning Record will be possible only with technological improvements to current UBC systems, the precise timing of each phase of implementation outlined below would need to be determined based in part on the availability of the necessary technology, and the advancement of the Student Academic Systems Initiative (SASI).

The Committee recommends four implementation phases, as outlined in Figure 1 below:

# Comprehensive Record Phases



**Figure 1: Comprehensive Record Phases of Implementation**

## Phase 1: Do More with What we Have

Phase 1 would enhance the existing transcript by adding to the current information, but without adding significant new categories of information or significantly changing the nature of the record.

The information added to the record as part of Phase 1 that is not included in the current transcript would include:

- Capacity for competency-based assessment schemes such as those required for programs with professional accreditation requirements; and
- Credit-based, non-degree credentials.

## Phase 2: Go Digital

Phase 2 would enhance the existing transcript (following phase 1) with digital capabilities that would allow the record to connect to:

- Information links (such as syllabi or award descriptions);
- Designated digital artifacts (examples of work product completed as part of listed courses); and
- Non-credit credentials.

### **Phase 3: Learner-Focused Enhancement**

Phase 3 would continue to add content to the record, while improving its capacity for customization. This phase would include two significant improvements:

- 1) **Student-Selected Digital Artifacts:** Whereas Phase 2 would allow for the inclusion of a limited set of digital artifacts selected by the University, Phase 3 would open this capacity to students, allowing students to select and upload the work product or other artifacts they feel best represent their learning and academic achievement.
- 2) **Customised Views:** Students and other users would be granted the ability to produce different reports using the information contained in the learning record database, including or excluding categories of information, or reordering entries.

### **Phase 4: Broaden Learning Horizons**

Phase 4 would see the inclusion of learning experiences such as co-curricular and extra-curricular activities added to the comprehensive learning record.

These entries would include verified experiences taking place outside of the for-credit coursework.

While, as noted above, a complete implementation plan is beyond the scope of this paper, two key questions have arisen during the committee's deliberations that may also be of interest to Senate:

- 1) What categories and types of activities should be officially recognized, by whom, and according to what criteria?;
- 2) How will student participation in these activities be verified and validated?

The answers to these questions would need to be determined by a broader discussion among the University community should Senate endorse further exploration of this concept.

One possible model would be a form of advance certification by a committee or other body established for that purpose, of a given activity making it eligible for inclusion on the comprehensive learning record. Each certified activity would be associated with an approved description and a unit or individual, such as a faculty member, athletic coach, student leader, or community member, authorized to validate a student's participation in that activity. This model would minimize the demands on faculty members and others responsible for offering such experiences by requiring only that the activity be described once and that the involvement of individual students be confirmed.

In order to tailor the entries for individual students to their particular experience, students could also be provided with a means to create a concise commentary on the outcomes of the documented learning experiences. In addition, it might also be possible for students to add new types of experiences that would not require official validation as a separate category of information, provided established criteria are met.



## Conclusion and Recommendations

The Senate *ad hoc* Committee on Flexible Learning proposes that, as UBC moves forward into its second century, significant improvements should be made in the manner in which the University records and recognizes learning. While UBC has begun to lag behind other institutions in this respect, the Committee believes that the proposed Comprehensive Learning Record stands to enhance the student experience and turn the University into a leader in this area.

The Senate *ad hoc* Committee on Flexible Learning respectfully recommends that the UBC Vancouver and Okanagan Senates endorse the continued exploration and development of the Comprehensive Learning Record. The Committee recommends that Enrolment Services be charged with responsibility for developing the Comprehensive Learning Record alongside the Student Academic Systems Initiative. Enrolment Services is asked to report to Senate periodically on the progress of the Comprehensive Learning Record, and to consult with Senate and its Committees as necessary to effectively implement the recommendations made in this report.