



**Senate Standing Committees on University Budget  
and Academic Planning and Priorities**

**Friday, January 22, 2016, 9am  
Surrey Campus, Cedar 2110**

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**AGENDA**

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	Start Time
1. Call to Order .....Thomas Westgate	9:00
2. Confirmation of Agenda	9:01
3. Approval of SSCUB Minutes for December 4, 2015	9:02
4. Pending Business	9:07
5. Chair's Report .....Thomas Westgate	9:08
6. 2016/17 Draft University Budget (distribution at meeting) .....Jon Harding	9:10
7. 2016/17 Skills Gap Plan .....Lori McElroy	9:30
8. Program Concept: Post Baccalaureate Diploma, Operations and Supply Chain Management Specialist ..... Duane Radcliffe	9:45
9. Program Concept: Post Baccalaureate Diploma, Technical Management and Services ..... Duane Radcliffe	10:15
10. Items for Discussion	10:45
11. Adjournment	10:50

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**Next Meeting**

**Friday, January 29, 2016, 9am  
Surrey Campus, Cedar 2110**



## MINUTES

### Senate Standing Committee on University Budget

Friday, December 4, 2015, 9:00am

Surrey Campus, Cedar Building, Room 2110

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#### Present:

Tru Freeman  
Elizabeth Worobec  
Thomas Westgate, Chair  
Caroline Daniels  
Kathy Lylyk  
Joyce MacKenzie  
Alice MacPherson  
Faith Auton-Cuff  
Dale Simonson  
Sukey Samra  
Jerry Murphy  
Carol Stewart  
Wayne Tebb

#### Ex-Officio / Non-voting

Kathy Lylyk  
Jennifer Au

#### Regrets:

Jim Murray

#### Guests:

Stefanie Singer  
Angela Tao  
Natalie Walker, Executive Secretary to Senate

#### Recorder

Lori Scanlan, University Secretariat

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#### 1. Call to Order

The Chair called the meeting to order at 9:03am.

#### 2. Confirmation of Agenda

**Moved by Alice Macpherson; seconded by Jerry Murphy:**

**THAT the agenda be confirmed.**

**Motion Carried**

#### 3. Approval of Minutes of November 20, 2015

Item 6 was amended to reflect that "consultation occurred but the resolution wasn't clear".

**Moved by Tru Freeman; seconded by Elizabeth Worobec:**

**THAT the minutes of November 20, 2015 be approved as amended.**

**Motion Carried**

#### 4. Pending Business

##### 4.1. Updated Financials for Bachelor of Science In Nursing, Bachelor of Psychiatric Nursing and Certificate in Health Foundations

The committee received the revised financials and engaged in a brief question and answer period. SSCUB was satisfied with the responses to their questions.

**Moved by Tru freeman; seconded by Faith Auton-Cuff:**

**THAT SSCUB endorse The Full Program Proposal for the Certificate in Health Foundations and recommends it to Senate.**

**Motion Carried**

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**Moved by Tru Freeman; seconded by Faith Auton-Cuff:**

**THAT SSCUB endorse The Full Program Proposal for the Bachelor of Science In Nursing and recommends it to Senate.**

**Motion Carried**

**Moved by Tru Freeman; seconded by Faith Auton-Cuff:**

**THAT SSCUB endorse The Full Program Proposal for the Bachelor of Psychiatric Nursing and recommends it to Senate.**

**Motion Carried**

## **5. Chair's Report**

The Chair presented the priorities forwarded to Senate in 2014 and provided an update on items that were not awarded funding.

## **6. 2016/17 Budget Presentation Priorities**

The Chair requested direction from Finance regarding setting priorities for the 2016/17 Fiscal Year. Kathy Lylyk, Executive Director, Finance reviewed the overall process and SSCUB's role.

The committee began their deliberations by reviewing the Dean's Council priorities listed in the November 20, 2015 SSCUB Minutes. While maintaining a strategic approach and focusing on high level principles the committee developed a list of priorities based on VISION 2018 Strategic Plan, Academic Plan 2018 and the October budget presentations.

**Moved by Faith Auton-Cuff; seconded by Elizabeth Worobec:**

**THAT SSCUB endorse the following priorities in no particular order.**

- Robust degree audit – Ellucian Degree Works software requested by Student Services
- Systematic strategy for supplying robust data to ensure quality student programming
- Enhanced safety and security on all campuses
- Ensure ongoing support for 3<sup>rd</sup> and 4<sup>th</sup> year programs
- Support initiatives that increase and diversify revenues
- Support initiatives, including PLAR, that support our open access mandate
- Expand and support experiential learning opportunities
- Provide enhanced support for mental health and well-being initiatives
- Support domestic recruitment strategies that target growing markets and underrepresented student groups
- Support current and future-oriented social, economic and ecological sustainability initiatives
- Ensure adequate administrative support for student and organizational success

**Motion Carried**

## **7. Summary of Budget Asks from Dean's Council**

The committee reviewed the Dean's Council priorities as part of item 6: 2016/17 Budget Presentation Priorities.

## **8. Program Proposal -- Financial Template and Instructions**

Stefanie Singer, Manager, Budgeting and Assurance, requested SSCUB's feedback on the Program Proposal – Financial Template and Instructions.

The following feedback was provided:

- Remove the final total column
- Move “academic non-recurring benefits” to the Program Development section
- Include a mechanism for indicating that there is an expectation for additional support beyond the current administrative support in areas such as: IT, Library, Dean's Office, Marketing, etc.

## **9. Items for Discussion**

The Chair asked SSCUB to share items or approaches from the October budget presentations that they saw as best practices or provide suggestions for ways to improve the process:

- The use of a summary sheet – perhaps develop a template for all presenters to use.
- Develop context and criteria for the review of asks prior to presentations
- Ask that only the top three priorities be presented
- A cover sheet indicating the current budget and what it covers
- The committee agreed that the presentations were critical and stressed the need for their continuance

## **10. Adjournment**

The meeting adjourned at 12:01pm.



**Senate Standing Committees on University Budget  
and on Academic Planning and Priorities**

**Agenda Item #:** 7  
**Meeting Date:** January 22, 2016  
**Presenter(s):** Lori McElroy

**Agenda Item:** 2016/17 Skills Gap Plan

<b>Action Requested:</b>	<input type="checkbox"/> Motion to Approve <input type="checkbox"/> Discussion <input checked="" type="checkbox"/> Information <input type="checkbox"/> Education
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<b>Recommended Resolution:</b>	N/A
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**Context & Background:** In the Spring of 2014, the Province released the Skills for Jobs Blueprint, which outlined a plan to re-engineer education and training in BC to allocate more provincial funding to programs related to jobs expected to be in high demand in the future. Implementation began with the 2014/15 fiscal year. Each year, each institution submits an updated Skills Gap Plan. The 2016/17 Skills Gap Plan is due to the Ministry by February 12, 2016.

**Key Messages:**  
*[maximum of three]*

- 1. The proposed plan will achieve the reallocation amount required by AVED using current KPU programming.**
- 2. No new programs are proposed in this plan.**
- 3. No existing programs are being proposed for elimination in this plan.**

**Resource Requirements:** *None.*

**Implications / Risks:** *None*

**Consultations:** *IAP has consulted with the President, Provost and Vice President of Finance and Administration. The plan is being presented to SSCUB and SSCAP and Senate.*

**Attachments:** *Skills Gap Plan for 2016-17*

**Submitted by:** *Lori McElroy, Executive Director, IAP*

**Date submitted:** *January 14, 2015.*

**Note: Submit to Vice Chair, Senate and Executive Secretary to Senate as a MS Word document**

## Skills Gap Plan for 2016/17

In the Spring of 2014, the Province released the Skills for Jobs Blueprint, which outlined a plan to re-engineer education and training in BC to allocate more provincial funding to programs related to jobs expected to be in high demand in the future. Implementation began with the 2014/15 fiscal year. Each year, each institution submits an updated Skills Gap Plan. The 2016/17 Skills Gap Plan is due to the Ministry by February 12, 2016.

### Background

In 2013/14, about ten percent of the \$1.8 billion in provincial operating grants provided to post-secondary institutions was targeted to specific programs, primarily in health, medicine, and graduate programs. The intent of the *Skills for Jobs Blueprint* is to reallocate funding gradually so that by 2017/18, 25% of funding is allocated to targeted programs. Note, there is no new funding for this Initiative. Each institution is required to re-allocate a portion of their existing funding toward the targeted areas.

Table 1 shows the amount of baseline targeted funding, and the amount of increase institutions are required to make each year. The table provides a breakdown by type of institution, as well as the specific amounts for KPU. Our baseline was 6.1%, which is slightly higher than the average of 4.9% for all teaching universities, but lower than the average of 10.3% for the system. KPU is expected to increase its allocation toward targeted programs to 21.6% by 2017/18, just above the average for teaching universities of 20.3% and below the average of 25.7% for the system.

**Table 1: Distribution of Targeted Funding<sup>1</sup>**

Institution	Baseline % Target Funded	2014/15 Targeted Funding	2015/16 Targeted Funding	2016/17 Targeted Funding	2017/18 Notional Targeted Funding*	Total Targeted Funding	Final % Targeted Funding
Colleges	6.9%	\$8,036,929	\$17,979,736	\$17,789,535	\$9,903,000	\$53,709,200	22.7%
Institutes	11.0%	\$2,918,492	\$6,547,492	\$6,547,216	\$3,640,000	\$19,653,200	24.9%
Research Universities	13.0%	\$23,425,200	\$50,597,200	\$50,101,500	\$28,288,000	\$152,411,900	28.4%
Teaching Universities	4.9%	\$6,612,225	\$14,944,050	\$14,500,425	\$8,169,000	\$44,225,700	20.3%
Total	10.3%	\$40,992,846	\$90,068,478	\$88,938,676	\$50,000,000	\$270,000,000	25.7%
KPU	6.1%	\$1,450,000	\$3,385,000	\$3,034,300	\$1,779,000	\$9,648,300	21.6%

\* Amount subject to change by AVED; amounts based on distribution of funding used for 2016/17.

Each institution develops a Skills Gap Plan demonstrating how it plans to adjust its program mix to meet its funding allocation target for the year. There are five categories that institutions can address in their plan: programs related to high opportunity occupations, health programs, institutional priority programs, as well as programs targeted for Aboriginal learners or for persons with disabilities. Program inclusion guidelines are provided in Appendix A. Appendix B provides the list of the high opportunity occupations.

<sup>1</sup> Source: Ministry of Advanced Education, Re-Engineering Operating Grants: Implementation Guide, 2016/17.

Each Skills Gap Plan must identify the specific programs that the institution will target that year, the funding allocated toward these programs and the FTEs that the institution will deliver for each. The plan should also identify program reductions in non-targeted areas that offset the allocations, if applicable. Failure to meet the FTE targets in the plan will mean that the funding allocated to that program will be removed from the institution's grant in subsequent years.

As required by AVED, KPU submitted our Skills Gap Plans for 2014/15 and 2015/16. Table 2 shows the cumulative program targets in KPU's previous plans.

### **Developing the 2016/17 Plan**

To develop the 2016/17 plan, IAP reviewed the high opportunity occupations and identified any occupations relevant to KPU programs. The number of top opportunity occupations that can be targeted in the plan has expanded from 60 to 100 (see Appendix B). These occupations relate to only a limited number of KPU programs, as follows:

- 36 related to business
- 6 related to other KPU programs in Arts, Design and Science
- 1 technology (CADD)
- 24 trades related (ITA funded so not relevant)
- 29 not related to KPU programs
- 4 related to KPU proposed programs not yet approved

Since the purpose of the plan is to identify how we will reallocate AVED funding, trades related programs are not applicable since they are funded by ITA (Industry Training Authority). Most of the relevant occupations are already in our plan. For many of these we can add additional FTE targets to achieve the goal for this year. We also identified some other KPU programs related to these occupations that can be added to our plan.

For programs already in the plan, we reviewed enrolment history and identified where we could increase the FTE target. Where the FTE target was well below the actual FTEs in recent years, IAP recommended an additional FTE target for the program.

For programs not yet in the plan, IAP reviewed enrolment history and recommended an FTE target for the 2016/17 plan.

To determine the amount of funding allocated to the targeted programs, AVED provides a set of funding bands we can use. These vary by type of program and are shown in the plan. Multiplying the funding amount by the FTE target shows the amount of funding allocated to the program. Summing over all programs in the plan gives the total amount allocated toward targeted programs for the year.

Each plan is cumulative and includes the targets allocated in the prior plans. The proposed 2016/17 skills gap plan is presented in Table 3, below. Note, all programs in the plan are current programs offered at KPU. No new programs are proposed, and no existing programs are being cancelled for this plan.

**Table 2: Cumulative Program Targets from Plans for Prior Years**

Details of Baseline Information:

Program Name	National Occupational Classification (NOC)	Classification of Instructional Programs (CIP)	Program Focus (as applicable)		a	c ÷ a = b	c
			Aboriginal	Persons with disabilities	Target Funded FTEs (Baseline)	AVED Funding per Target Funded FTE	2015/16: Total Targeted Funding
Allied Health - Multiple	3414: Other assisting occupations in support of health services	51.0000: Health services/allied health/health sciences, general			20	\$ 1,467	\$ 29,340
Graduate Nurse Refresher	3012: Registered nurses and registered psychiatric nurses	51.3801: Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN)			4	\$ 1,467	\$ 5,868
BSN - Bachelor of Science in Nursing	3012: Registered nurses and registered psychiatric nurses	51.3801: Registered nursing/registered nurse (RN, ASN, BSN, BScN, MSN, MScN)			256	\$ 15,493	\$ 3,966,081
Health Care Assistant	3413: Nurse aides, orderlies and patient service associates	51.3902: Nursing assistant/aide and patient care assistant/aide			11	\$ 5,256	\$ 57,818
Brewing and Brewery Operations Diploma	9461: Process Control and Machine Operators, Food and Beverage Processing	0110: Food science and technology			5	\$ 10,000	\$ 50,000
Diploma of Technology in Environmental Protection	2263: Inspectors in public and environmental health and occupational health and safety	1505: Environmental control technologies/technicians			15	\$ 6,000	\$ 90,000
Certificate in Engineering	2133: Electrical and electronics engineers	1401: Engineering, general			30	\$ 9,000	\$ 270,000
Diploma in Computer Aided Design and Drafting	2253: Drafting technologists and technicians	1513: Drafting/design engineering technologies/technicians			30	\$ 9,000	\$ 270,000
Certificate of Completion in Access Programs for People with Disabilities - Job Preparation		3201: Basic Skills		D	10	\$ 11,000	\$ 110,000
Bachelor of Arts - Major in Criminology	4311: Police officers (except commissioned)	4504: Criminology			115	\$ 6,000	\$ 690,000
Bachelor of Interior Design	5242: Interior designers and interior decorators	5004: Design and applied arts			15	\$ 6,000	\$ 90,000
Bachelor of Design, Fashion and Technology	5243: Theatre, fashion, exhibit and other creative designers	5004: Design and applied arts			45	\$ 6,000	\$ 270,000
Bachelor of Science in Health Science	4165: Health policy researchers, consultants and program officers	5100: Health services/allied health/health sciences, general			10	\$ 9,000	\$ 90,000
Bachelor of Business Administration in Accounting	1111: Financial auditors and accountants	5203: Accounting and related services			175	\$ 7,000	\$ 1,225,000
Bachelor of Business Administration in Entrepreneurial Leadership	1122: Professional occupations in business management consulting	5207: Entrepreneurial and small business operations			60	\$ 7,000	\$ 420,000
Bachelor of Business Administration in Human Resources Management	1121: Human resources professionals	5210: Human resources management and services			115	\$ 7,000	\$ 805,000
Post Baccalaureate Diploma in Human Resources Management	1121: Human resources professionals	5210: Human resources management and services			5	\$ 7,000	\$ 35,000
Bachelor of Business Administration in Marketing Management	1123: Professional occupations in advertising, marketing and public relations	5214: Marketing			60	\$ 7,000	\$ 420,000
<b>Starting Baseline Targeted Funding</b>					<b>981</b>		<b>\$ 8,894,107</b>

**Table 3: Proposed 2016/17 Skills Gap Plan**

KPU Program	NOC	CIP	Prior FTE Target	16/17 FTE Target	Funding per Target FTE	16/17 Total Targeted Funding
Bachelor of Arts - Major in Criminology	4311: Police officers (except commissioned)	45.04 Criminology	115	25	\$ 6,000	\$ 150,000
Bachelor of Business Administration in Accounting	1111: Financial auditors and accountants	52.03 Accounting and related services	175	110	\$ 7,000	\$ 770,000
Bachelor of Business Administration in Human Resources Management	1121: Human resources professionals	52.10 Human resources management and services	115	30	\$ 7,000	\$ 210,000
Post Baccalaureate Diploma in Human Resources Management	1121: Human resources professionals	52.10 Human resources management and services	5		\$ 7,000	\$ -
Bachelor of Business Administration in Marketing Management	1123: Professional occupations in advertising, marketing and public relations	52.14 Marketing	60	50	\$ 7,000	\$ 350,000
Bachelor of Business Administration in Entrepreneurial Leadership	1122: Professional occupations in business management consulting	52.07 Entrepreneurial and small business operations	60	40	\$ 7,000	\$ 280,000
Bachelor of Interior Design	5242: Interior designers and interior decorators	50.04 Design and applied arts	15	5	\$ 6,000	\$ 30,000
Diploma of Technology in Environmental Protection, Cooperative Education Option	2263: Inspectors in public and environmental health and occupational health and safety	15.05 Quality control and safety technologies/technicians	15		\$ 6,000	\$ -
Bachelor of Science - Major in Health Science	4165: Health policy researchers, consultants and program officers	51.00 Health services/allied health/health sciences, general	10		\$ 9,000	\$ -
Certificate in Engineering	2133: Electrical and electronics engineers	14.01 Engineering, general	30		\$ 9,000	\$ -
Bachelor of Design, Fashion and Technology	5243: Theatre, fashion, exhibit and other creative designers	50.04 Design and applied arts	45	5	\$ 6,000	\$ 30,000
Brewing and Brewery Operations Diploma	9461: Process control and machine operators, food and beverage processing	01.10 Food science and technology	5	5	\$ 10,000	\$ 50,000
Diploma in Computer Aided Design and Drafting	2253: Drafting technologists and technicians	15.13 Drafting/design engineering technologies/technicians	30	5	\$ 9,000	\$ 45,000
Certificate of Completion in Access Programs for People with Disabilities - Job Preparation		32.01 Basic Skills	10		\$ 11,000	\$ -
Bachelor of Arts - Major in Psychology	4153: Family, marriage and other related counsellors	42.01 Psychology, general		60	\$ 6,000	\$ 360,000
Diploma in Business Management	0621: Retail and wholesale trade managers	52.02 Business administration, management and operations		50	\$ 7,000	\$ 350,000
Certificate in Legal Administrative Studies	1242: Legal administrative assistants	22.03 Legal support services		10	\$ 7,000	\$ 70,000
Bachelor of Technology in Information Technology	2171: Information systems analysts and consultants	11.01 Computer and information sciences and support services, general		40	\$ 7,000	\$ 280,000
Certificate in Health Unit Coordinator	1414: Receptionists	51.07 Health and medical administrative services		10	\$ 10,000	\$ 100,000
<b>Total Targeted Funding</b>				<b>445</b>		<b>\$3,075,000</b>

## Appendix A: Program Inclusion Guidelines for Skills Gap Plans

Top-opportunity occupations	<ul style="list-style-type: none"> <li>List of 100 high opportunity occupations as per the BC 2024 Labour Market Outlook, as defined by the Ministry of Jobs, Tourism and Skills Training (JTST).</li> <li>These programs are expected to comprise the majority of programs included in institutions' Skills Gap Plans, with the balance coming from the other categories.</li> <li>Trades programs that are delivered using Ministry base-funding (program delivery over and above that funded by the Industry Training Authority [ITA]), and that are identified as high priority occupations within the Top-100 list can be included in this category.</li> </ul>
Health human resource programs	<ul style="list-style-type: none"> <li>The top 10 health human resource programs are identified as priorities by the Ministry of Health, through the Health Human Resource Forecast.</li> <li>Institutions remain accountable for maintaining current health program student full-time equivalent targets and will continue to follow the existing approval process for new health programs.</li> </ul>
Additional priority programs	<ul style="list-style-type: none"> <li>This section is to be used for programs that do not fall within the Top 100 or Priority Health lists, and instead respond to other government priorities or are proposed based on institutional knowledge of local industry and community needs, and specialized provincial priority needs (e.g., mining, public safety).</li> <li>Institutions will be asked to provide supplemental labour market demand information or other relevant contextual information to support these additional occupations and programs.</li> </ul>
Programs targeted for Aboriginal learners	<ul style="list-style-type: none"> <li>Institutions are encouraged to demonstrate a shift to increase programs targeted for Aboriginal learners.</li> <li>First Nations and Aboriginal communities have consistently articulated the need for post-secondary education and training for the broad range of jobs needed to support community capacity and development.</li> <li>These include but are not limited to those occupations identified as in-demand for the province overall.</li> </ul>
Programs targeted for persons with disabilities	<ul style="list-style-type: none"> <li>Institutions are encouraged to demonstrate a shift to increase programs targeted for persons with disabilities with training that supports their transition to work.</li> </ul>

## Appendix B: Top 100 High Opportunity Occupations

The list of the top 100 high opportunity occupations, as per British Columbia 2024 Labour Market Outlook, is provided in the table below. The list includes occupations with skill levels A, B, C and O, which are broadly defined as follows: usually requiring a degree (skill level A); usually requiring a certificate or diploma or apprenticeship training (skill level B); usually requiring high school and/or occupation-specific training (skill level C); and management, usually requiring a degree and/or significant work experience (skill level O). Skill levels are based on Statistics Canada's National Occupational Classification (NOC) system.

### Top 100 High Opportunity Occupations, sorted by Related KPU Faculty

Relevant Faculty	NOC Code	Occupation	Job Openings to 2024	Skill Level
Arts	4311	Police officers (except commissioned)	3,800	B
Arts	4214	Early childhood educators and assistants	8,500	B
Arts	4153	Family, marriage and other related counsellors	2,300	A
Business	13	Senior managers - financial, communications and other business services	4,100	O
Business	16	Senior managers - construction, transportation, production and utilities	3,500	O
Business	111	Financial managers	4,500	O
Business	112	Human resources managers	2,900	O
Business	121	Insurance, real estate and financial brokerage managers	9,400	O
Business	122	Banking, credit and other investment managers	4,900	O
Business	124	Advertising, marketing and public relations managers	3,300	O
Business	213	Computer and information systems managers	3,500	O
Business	421	Administrators - post-secondary education & vocational training	2,100	O
Business	601	Corporate sales managers	5,100	O
Business	621	Retail and wholesale trade managers	27,400	O
Business	631	Restaurant and food service managers	7,900	O
Business	632	Accommodation service managers	2,800	O
Business	711	Construction managers	7,200	O
Business	712	Home building and renovation managers	3,600	O
Business	714	Facility operation and maintenance managers	3,900	O
Business	1111	Financial auditors and accountants	11,700	A
Business	1114	Other financial officers	5,400	A
Business	1121	Human resources professionals	2,200	A
Business	1123	Professional occupations in advertising, marketing and public relations	3,200	A
Business	1221	Administrative officers	19,600	B
Business	1222	Executive assistants	2,500	B
Business	1224	Property administrators	6,200	B
Business	1241	Administrative assistants	16,400	B
Business	1242	Legal administrative assistants	2,300	B
Business	1311	Accounting technicians and bookkeepers	11,000	B
Business	1312	Insurance adjusters and claims examiners	1,900	B
Business	1411	General office support workers	13,200	C
Business	1414	Receptionists	11,200	C
Business	1431	Accounting and related clerks	6,700	C
Business	2171	Information systems analysts and consultants	7,600	A
Business	2174	Computer programmers and interactive media developers	6,200	A

Relevant Faculty	NOC Code	Occupation	Job Openings to 2024	Skill Level
Business	2175	Web designers and developers	2,000	A
Business	4163	Business development officers and marketing researchers and consultants	2,400	A
Business	6211	Retail sales supervisors	3,200	B
Business	6222	Retail and wholesale buyers	1,900	B
Design	5242	Interior designers and interior decorators	1,400	B
Science	2263	Inspectors in public and environmental health and occupational health and safety	1,300	B
Science	4165	Health policy researchers, consultants and program officers	1,500	A
Technology	2253	Drafting technologists and technicians	1,900	B
Trades	2264	Construction inspectors	1,100	B
Trades	2281	Computer network technicians	3,400	B
Trades	7204	Contractors and supervisors, carpentry trades	1,200	B
Trades	7205	Contractors and supervisors, other construction trades, installers, repairers and servicers	2,200	B
Trades	7231	Machinists and machining and tooling inspectors	1,500	B
Trades	7233	Sheet metal workers	1,000	B
Trades	7237	Welders and related machine operators	3,300	B
Trades	7241	Electricians (except industrial and power system)	5,400	B
Trades	7242	Industrial electricians	1,400	B
Trades	7251	Plumbers	2,800	B
Trades	7252	Steamfitters, pipefitters and sprinkler system installers	700	B
Trades	7253	Gas fitters	400	B
Trades	7271	Carpenters	11,200	B
Trades	7282	Concrete finishers	600	B
Trades	7284	Plasterers, drywall installers and finishers and lathers	1,900	B
Trades	7294	Painters and decorators (except interior decorators)	3,700	B
Trades	7302	Contractors and supervisors, heavy equipment operator crews	2,700	B
Trades	7311	Construction millwrights and industrial mechanics	3,400	B
Trades	7312	Heavy-duty equipment mechanics	3,100	B
Trades	7371	Crane operators	800	B
Trades	7441	Residential and commercial installers and servicers	2,500	C
Trades	7452	Material handlers	7,500	C
Trades	7511	Transport truck drivers	15,500	C
Trades	9241	Power engineers and power systems operators	1,500	B
Unrelated	4151	Psychologists	1,300	A
Unrelated	4152	Social workers	2,600	A
Unrelated	211	Engineering managers	1,200	O
Unrelated	2131	Civil engineers	3,700	A
Unrelated	2132	Mechanical engineers	2,000	A
Unrelated	2133	Electrical and electronics engineers	2,100	A
Unrelated	2151	Architects	1,800	A
Unrelated	2173	Software engineers and designers	3,500	A
Unrelated	4011	University professors and lecturers	6,600	A
Unrelated	4012	Post-secondary teaching and research assistants	2,800	A
Unrelated	4021	College and other vocational instructors	7,200	A
Unrelated	4112	Lawyers and notaries	3,500	A
Unrelated	4312	Firefighters	1,500	B

<b>Relevant Faculty</b>	<b>NOC Code</b>	<b>Occupation</b>	<b>Job Openings to 2024</b>	<b>Skill Level</b>
Unrelated	5121	Authors and writers	2,300	A
Unrelated	6321	Chefs	4,300	B
Unrelated	6322	Cooks	10,700	B
Unrelated	6332	Bakers	2,700	B
Unrelated	6421	Retail salespersons	33,300	C
Unrelated	6513	Food and beverage servers	7,700	C
Unrelated	6541	Security guards and related security service occupations	5,800	C
Unrelated	7513	Taxi and limousine drivers and chauffeurs	2,400	C
Unrelated	7514	Delivery and courier service drivers	3,700	C
Unrelated	7521	Heavy equipment operators (except crane)	5,000	C
Unrelated	5254	Program leaders and instructors in recreation, sport & fitness	3,500	B
Unrelated	6231	Insurance agents and brokers	3,800	B
Unrelated	6232	Real estate agents and salespersons	3,300	B
Unrelated	4411	Home child care providers	3,400	C
Unrelated	2241	Electrical and electronics engineering technologists & technicians	1,900	B
Unrelated	2242	Electronic service technicians (household & business equipment)	3,300	B
Future	4212	Social and community service workers	10,800	B
Future	731	Managers in transportation	2,300	O
Future	1122	Professional occupations in business management consulting	3,400	A
Future	1225	Purchasing agents and officers	2,200	B



## Senate Standing Committee on University Budget

**Agenda Item #** 8

**Meeting Date:** January 22, 2016

**Presenter(s):** Duane Radcliffe

**Agenda Item:** Post Baccalaureate Diploma: Operations and Supply Chain Management Specialist

<b>Action Requested:</b>	<input checked="" type="checkbox"/> Motion to Approve <input type="checkbox"/> Discussion <input type="checkbox"/> Information <input type="checkbox"/> Education
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<b>Recommended Resolution:</b>	<b>THAT the Senate Standing Committee on University Budget endorse the Program Concept for a Post Baccalaureate Diploma, Operations and Supply Chain Management Specialist, and recommend it to Senate.</b>
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**Context & Background:** The program concept and full program proposal were endorsed by the Senate Standing Committee on Curriculum (January 13, 2016) and by the Senate Standing Committee on Academic Planning and Priorities (January 15, 2016). The Senate Standing Committee on University Budget's review of the program concept will focus on the budgetary impact and cost/revenue analysis.

**Key Messages:**  
*[maximum of three]*

1. Self-Funded new programming to support the 5% FTE annual growth, that is designed to meet the time availability requirements of emerging professionals and aligns with the utilization of new KPU infrastructure
2. Distinctive program aligned to industry and labour market, designed to support emerging professionals in key regional and provincial economic development regions  
Program curriculum continue to enhance KPU's industry standing as it will leverage industry partnerships and relationship for experiential learning and applied projects / research. Will allow the School of Business to expand its support of applied project partnerships with the regions economic development bodies and agencies (City Gov't, Boards of Trade, Industry Associations, Professional Associations).
3. Program curriculum is designed to build strong international student interest, and has been designed to allow for the offering of work experience (co-op) for one term – only for fall intakes.

**Resource Requirements:** Self-Funded program design to be eventually offered out of Civic Center 3

**Implications / Risks:** *Current brand recognition is a risk to the recruitment, management of international enrollment – right international student being recruited.*

**Consultations:** *See concept document*

**Attachments:** *OSCM Program Concept document  
IAP program viability assessment document*

**Submitted by:** *Wayne Tebb, Dean, School of Business and Duane Radcliffe, Associate Dean, School of Business*



**Senate Standing Committee on University Budget**

**Agenda Item #** 8

**Meeting Date:** January 22, 2016

**Presenter(s):** Duane Radcliffe

**Date submitted:** *January 18, 2016*

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**A. *Originating Group*****1. Internal Developers**

Contributing Faculty:	Brad Anderson (Faculty Lead) Carlos Calao Charles Dickens Shari-Ann Herrmann Marcelo Machado Ron Shay Vasile Zamfirescu	Faculty:	School of Business
Project Lead:	Duane Radcliffe, Associate Dean	Dean:	Wayne Tebb

**Date:** December 18, 2015

If joint educational offering, name of other institution:

**Note: Requirements outlined in the joint educational policy must be met before proceeding to full program proposal.**

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**B. *Basic Information***

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**B.1 Name of proposed program**

Operations and Supply Chain Management Specialist ("OSCM")

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**B.2 Proposed credential to be granted**

Under Policy L.5 Post Baccalaureate Diploma. It is preferred that the program grant a Post Degree Diploma.

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**B.3 Expected length of program (in years):**

12 months for full-time participants, 16 months if co-op is completed

24 months for part-time participants

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**B.4 Anticipated start date of program:**

Spring 2017

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**B.5 Is this a cohort, selective entry, or open access program?**

Limited intake for a full-time cohort – 25 seats will be allocated per cohort intake. The program will be launched in the Spring 2017 term (Year 1). Once market is built, a second cohort intake will be offered for spring term (2017).

Limited intake for a part-time cohort– 5-10 seats will be allocated per fall and spring term intake depending on full-time cohort intakes. If there is strong demand for part-time entrance in any term an additional intake of a full 30 part-time student cohort will be launched.

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**B.6 How many students would you expect to enroll in each year of the program? How will the program be rolled out if you are not using a cohort model?**

Limited intake for a full-time cohort – 25 seats will be allocated per cohort intake (fall and spring term intakes). The program will be launched in the Spring 2017 term intake (year 1 or launch intake). The second Intake will be Fall of 2017. Intakes will be Fall and Spring.

Limited intake for a part-time cohort– 5-10 seats will be allocated per fall and spring term intake depending on full-time cohort intakes. If there is strong demand for part-time entrance, in any term an additional intake of a full 30 part-time student cohort will be launched.

**Year 1 Intake**

Cohort Option	Fall Term	Academic Year Total
Full-time	25 max	25 max
Part-time	5-10 max	5-10 max
<b>Total</b>	<b>30-35 max</b>	<b>35 max</b>

**Subsequence Years - Intake Per Academic Year**

Cohort Option	Fall Term	Spring Term	Academic Year Total
Full-time	25 max	25 max	50 max
Part-time	5-10 max	5-10 max	10-20 max
<b>Total</b>	<b>30-35 max</b>	<b>30-35 max</b>	<b>60-70 max</b>

Note: While course class size will be set at 35 students, intakes will be managed to approximately 31 students. This will allow for seat availability in a class for students who may need to repeat a course or enter part-time studies with PLA in other courses.

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**C. Access**

**C.1. What entry requirements should applicants be expected to meet? If there are multiple entry points, please specify requirements for each. (A graphic representation of this may be attached as Appendix C. Are entrance requirements appropriate? Are students likely to be successful?)**

In addition to the School of Business Admission Requirements, which consist of KPU's [undergraduate English Proficiency Requirement](#), the following program admission requirements apply:

- Successful completion of a recognized undergraduate degree
  - Or
  - Successful completion of a recognized technical or science based Diploma with min of 5 yrs of related technical, science, operations or supply chain related work experience. (Examples of acceptable diploma disciplines of study – engineering, applied and natural sciences, information technology, computer
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**C.2. Will the structure of the program allow for full-time, part-time, evening, weekend, on-line, mixed-mode delivery methods, or a combination of any of these? (Identify each as appropriate).**

The program will be made accessible through a variety of delivery methods offering a full-time cohort intake option and limited part-time cohort intake. The program is designed to meet the needs of participants who are currently working full-time thus the delivery of courses will be via in-class and via blended in-class / on-line. Courses will be offered on Fridays and Saturdays and will utilize compressed mode(s) for some content areas. Please see Appendix E.

The program will be offered on Surrey Campus.

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**D. Program Description**

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**D.1. Identify how the proposed program supports Kwantlen's mission, mandate, strategic and academic plans?**

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**Industry and Labour Market Alignment**

The OSCM program has been designed to align and meet several critical outcomes of the B.C. government's Skills Blue Print and 2022 Labour Market Outlook studies. The programs learning outcomes are directly aligned to 6 occupational categories that the B.C 2022 Labour Market Outlook has determined as a development priority for the expansion of the B.C. economy and, 5 occupational categories that are linked to the development of the LNG industry in B.C. Further details are available in Section E, E2. The program further aligns to:

- Helping address one of the B.C. Chamber of Commerce's top 12 key issues facing the B.C.s business community - Productivity. <http://www.bcchamber.org/key-issues>.
- Business Council of B.C focus on supporting new ways of doing business with regards to Trade, Productivity and Innovation. <http://www.bcbc.com/key-issues>

**KPU Strategic and Academic Plan**

- Self-Funded new programming to support the 5% FTE annual growth
  - Distinctive program aligned to industry and labour market, designed to support emerging professionals in key regional and provincial economic development regions
  - Program designed to meet the time availability requirements of emerging professionals and aligns with the utilization of new KPU infrastructure
  - Program curriculum continue to enhance KPU's industry standing as it will leverage industry partnerships and relationship for experiential learning and applied projects / research. Will allow the School of Business to expand its support of applied project partnerships with the regions economic development bodies and agencies (City Gov't, Boards of Trade, Industry Associations, Professional Associations).
  - Program curriculum is designed to build strong international student interest, and has been designed to allow for the offering of work experience (co-op) for one term – only for fall intakes.
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**D.2 Explain how current faculty are able to deliver the program, and if they are not, how this issue will be addressed.**

Below is a summary of the Faculty in the School of Business that would be qualified to teach courses in this program.

Course	# Qualified FT Faculty	# Qualified Contract Faculty
Accounting and Financial Management for Managers – 3 Cr.	6	2
Managing Dynamic Teams – 3 Cr.	5	
Quantitative Methods for Business Management – 3 Cr.	4	
Strategic Operations Management – 3 Cr.	3	2
Negotiations and Stakeholder Communications – 3 Cr.	4	
Supply Chain & Logistics Management – 3 Cr.	3	2
Quality Management – 3 Cr.	3	2
Productivity, Innovation and Lean Systems – 3 Cr.	3	2
Project Management – 3 Cr.	3	
Information Systems for Operations and Supply Chain Management – 3 Cr.	2	2
Applied Ops or SCM Project – 3 Cr.	3	2

**Recruitment Qualifications:**

	Description
Minimum Requirements	<ul style="list-style-type: none"><li>• Masters in related area: MBA, Operations and Supply Chain, Engineering Management</li><li>• Five (5) years of senior management experience (director level or higher) in operations, supply chain management, quality, Enterprise IT implementation or management. Accounting for accounting and financial management for managers course.</li><li>• Demonstrated track record of developing emerging professionals</li></ul>
Additional Qualifications	<ul style="list-style-type: none"><li>• Additional professional designations or certifications as appropriate per course: ie: CPA, PMP, ASQ, CPIM-APICS, SCMP, Six Sigma, ISO Auditor.</li><li>• Proven experience managing productivity improvements</li><li>• Experience in corporate R&amp;D</li><li>• Experience managing quality standards and assurance (e.g. ISO, six-sigma, etc)</li><li>• Hands-on ERP/MRP implementation and management experience</li><li>• Experience managing supply chain logistics</li><li>• Experience in service or production operations</li><li>• Teaching experience at post secondary level an asset.</li></ul>

## E. Outcomes

### E.1 Will this program allow students to continue with further study?

Describe laddering, bridging, or post-credential continuation of education.

With completion of the OSCM program, students will have attained a strong applied management knowledge base; be able to demonstrate their ability in applying business, operations and supply chain management processes, tools and strategies as part of seeking professional accreditation or designation in:

- Supply Chain Management Professional ("SCMP") designation through the Supply Chain Management Association of Canada. <http://www.scmanational.ca>
- Project Manager Professional ("PMP") certification through the Project Management Institute. <http://www.pmi.org>
- ("ASQ") certification through the American Society for Quality. <http://asq.org>

### E.2 What is the nature of the work students are being prepared for? Include current labour market data that shows a demand for this type of graduate.

The table below summarizes the projected labour market demand in B.C. in a number of operations and supply chain related occupations.

Occupation	NOC	Occup. Size	New jobs 2012-2022			Projected Unemployment Rate		Competitiveness of Job Market in BC	
			#	% Replace.	% New	2017	2022	2017	2022
Purchasing Agents and Officers	1225	4,600	30,800	73%	21%	5.3%	3.3%	1:2	1:2
Purchasing Managers	0113	1,600	9,600	75%	25%	4.8%	2.7%	1:1	1:2
Managers in Transportation	0731	4,100	2,100	77%	23%	4.9%	2.7%	1:1	1:2
Sr. Managers, construction, transportation, production, utilities	0016	5,700	15,000	79%	21%	4.8%	2.7%	1:1	1:2
Manufacturing Managers	0911	8,700	6,300	77%	23%	4.9%	2.8%	1:1	1:1
Construction Manager	0711	12,400	15,300	70%	30%	4.8%	2.8%	1:1	1:1
Professional occupations in business management consulting	1122	7,600	9,200	68%	32%	4.8%	2.6%	1:1	1:1
Other managers in public administration	0414	1,000	1,600	81%	19%	4.4%	2.6%	1:1	1:2
Retail and wholesale trade managers	0621	52,300	2,800	76%	24%	4.6%	2.8%	1:1	1:2

Supervisors, food, beverage and associated products processing	9213	1,200	2,800	91%	9%	8.8%	6.9%	2:1	2:1
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Notes:

1. Competitiveness of job Market in B.C. Ratio of number of unemployed people to number of new job openings

2. Source [www.workbc.ca](http://www.workbc.ca)

**The table below summarizes the key element of projected jobs in BC in a number of operations and supply chain areas.**

Occupation	Ave Salary Range	Top Three Regional Employment Locations	LNG Need	Top 60 Job Ranking
Purchasing Agents and Officers	\$53,000-\$60,000	Mainland/Southwest; Northeast; North Coast & Nechako	Yes	29
Purchasing Managers	\$66,000-\$95,000	Mainland/Southwest; Northeast; North Coast & Nechako	Yes	
Managers in Transportation	\$66,000-\$95,000	North Coast & Nechako; Mainland/Southwest; Vancouver Island / Coast	Yes	42
Sr. Managers, construction, transportation, production, utilities	\$125,000-+	Northeast; North Coast & Nechako; Mainland/Southwest	Yes	18
Manufacturing Managers	\$66,000-\$95,000	Thompson-Okanagan; North Coast & Nechako; Mainland/Southwest		
Construction Manager	\$95,000-\$125,000	Northeast; North Coast & Nechako; Cariboo	Yes	8
Professional occupations in business management consulting	\$66,000-\$95,000	Kootenay; North Coast & Nechako; Mainland/Southwest		19
Other managers in public administration	\$66,000-\$95,000	Northeast; North Coast & Nechako; Mainland/Southwest		
Retail and wholesale trade managers	\$53,000-\$66,000	North East; Mainland/Southwest; Vancouver Island / Coast		
Supervisors, food, beverage and associated products processing	\$53,000-\$66,000	Northeast; North Coast & Nechako; Mainland/Southwest		

Notes:

1. Source: <http://www.workbc.ca/WorkBC/files/5f/5fc26f16-3c0f-4884-ab99-b475ca7448b7.pdf>

2. Source: [www.workbc.ca](http://www.workbc.ca)

Appendix F summarizes the position profiles for the nature of the work graduates of the OSCM program are being prepared for as ranked on the BC 2022 Labour Market Outlook top 60 jobs list or with a competitiveness high ranking.

We have identified the following key segments with regards to prospective students:

- Graduates with a bachelor degree who wish to pursue further education in operations and supply chain management, whether in manufacturing or in services.
- International students seeking to upgrade their skills in operations and supply chain management from an accredited university.
- Immigrants whose education from other countries is not recognized by certification bodies and professional associations in Canada. This segment will likely be attracted to the idea of leveraging their prior learning and experience into a post-baccalaureate that may lead to professional certifications in a wide array of specializations, such as construction, procurement, inventory, logistics, operations, trade, and quality management.
- Managers in fields not directly related to business (e.g., health services and government) who wish to acquire an additional specialization.
- Managers and employees engaged in international activities who may need to acquire or update formal education in Global Supply Chains, Global Inventory Management and Global Logistics.
- Managers and employees of for-profit, not-for-profit, governmental agencies and NGOs addressing the challenges of climate change and sustainable development, as this program incorporates the latest in sustainable operations and green supply chains.

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## ***F. Institutional Resources***

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### **F.1 What expertise, equipment, facilities and library resources will the program require to support student learning? Ensure that any required new resources in these areas are identified in the Costs section (G).**

Library resources: none required, all current business resources are in place to support this program

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### **F.2 Outline anticipated requirements for equipment, specialized space, etc.: (classrooms, labs, shops, general space)**

Classroom set up for case based learning will be required. Ideally breakout rooms or spaces would be available to class working groups.

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**G. Costs and Revenue** (to be prepared by Dean/Associate Dean in consultation with developer)

Budgetary requirements are provided for information purposes only. Program approval does not ensure budgetary support.

**Student Completion Path: 1-Fall Term Intake Per Academic Year - Financial Mode**

	AC YR 1	AC YR 2	AC YR 3	AC YR 4
<b>Domestic</b>				
Full-Time	19	15	15	15
Part- Time	10	10	10	10
Part-Time - Previous YR intake		7	7	7
<b>International</b>				
Full-Time	6	6	6	6
<b>Total Intake</b>	<b>35</b>	<b>38</b>	<b>38</b>	<b>38</b>

**REVENUE****Domestic Tuition (\$335/cr.)**

Full-time (11 courses, 33 credits)	\$210,045.00	\$165,825.00	\$165,825.00	\$165,825.00
Part-time (6 courses, 18 credits)	\$60,300.00	\$60,300.00	\$60,300.00	\$60,300.00
Part-time - Previous YR Intake (5 courses, 15 credits)		\$35,175.00	\$35,175.00	\$35,175.00

**International Tuition (\$550/cr.)**

Full-time (11 courses, 33 credits)	\$108,900.00	\$108,900.00	\$108,900.00	\$108,900.00
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**Tuition**

\$379,245.00	\$370,200.00	\$370,200.00	\$370,200.00
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**COSTS****Instructional Cost**

Courses 11 - 33cr. @ \$4,869.79	\$160,703.13	\$160,703.13	\$160,703.13	\$160,703.13
Instructional Materials / Library Materials	\$35,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	\$195,703.13	\$165,703.13	\$165,703.13	\$165,703.13

**KPU Overhead On Instructional Cost @**

40%

\$78,281.25	\$66,281.25	\$66,281.25	\$66,281.25
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**Operating Costs**

Program Coord/ Release 12.5% FTE	\$14,609.38	\$14,609.38	\$14,609.38	\$14,609.38
Dean Office Admin Support	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00
Marketing	\$35,000.00	\$30,000.00	\$25,000.00	\$25,000.00
Intake Launch Orientation	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	\$79,609.38	\$74,609.38	\$69,609.38	\$69,609.38

**Program Margin**

\$25,651.25	\$63,606.25	\$68,606.25	\$68,606.25
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**Note:** Program Tuition: Full-time domestic student: \$11,055; Full-time international student: \$18,150; Part-time domestic: YR 1- \$6,030, YR 2- \$5,025.

# **Student Completion Paths: 2 Intake Model: 1-Fall Term and 1-Spring Intake Per Academic Year Financial Model**

	AC YR 1	AC YR 2	AC YR 3	AC YR 4
<b>Domestic</b>				
Full-Time	39	34	29	29
Part- Time	17	12	12	12
Part-Time - Previous AC YR intake		13	10	10
<b>International</b>				
Full-Time	10	10	10	10
<b>Total Intake</b>	<b>66</b>	<b>69</b>	<b>61</b>	<b>61</b>
<b>REVENUE</b>				
<b>Domestic Tuition (\$335/cr.)</b>				
Fall - Full-time Intake (11 courses, 33 credits)	\$221,100.00	\$187,935.00	\$187,935.00	\$187,935.00
Fall - Part-time Intake (6 courses, 18 credits)	\$60,300.00	\$60,300.00	\$60,300.00	\$60,300.00
Spring - Full-time Intake (8 courses, 24 credits)	\$152,760.00	\$136,680.00	\$96,480.00	\$96,480.00
Spring - Part-Time Intake (4 courses, 12 credits)	\$28,140.00	\$28,140.00	\$28,140.00	\$28,140.00
Previous Intakes - Part-time (ave 6 courses, 18 credits)		\$78,390.00	\$60,300.00	\$60,300.00
<b>International Tuition (\$550/cr.)</b>				
Full-time (11 courses, 33 credits)	\$90,750.00	\$90,750.00	\$90,750.00	\$90,750.00
Full-time (8 courses, 33 credits)	\$66,000.00	\$66,000.00	\$66,000.00	\$66,000.00
<b>Tuition Revenue</b>	<b>\$619,050.00</b>	<b>\$648,195.00</b>	<b>\$589,905.00</b>	<b>\$589,905.00</b>
<b>COSTS</b>				
<b>Instructional Cost</b>				
19 Courses (57 cr.) @ \$4,869.79/cr.	\$277,578.13	\$277,578.13	\$277,578.13	\$277,578.13
Instructional Materials / Library Materials	\$35,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	<b>\$312,578.13</b>	<b>\$282,578.13</b>	<b>\$282,578.13</b>	<b>\$282,578.13</b>
<b>KPU Overhead On Instructional Cost @ 40%</b>	<b>\$125,031.25</b>	<b>\$113,031.25</b>	<b>\$113,031.25</b>	<b>\$113,031.25</b>
<b>Operating Costs</b>				
Program Coord/ Release 12.5% FTE	\$14,609.38	\$14,609.38	\$14,609.38	\$14,609.38
Dean Office Admin Support	\$56,250.00	\$56,250.00	\$56,250.00	\$56,250.00
Marketing	\$35,000.00	\$30,000.00	\$25,000.00	\$25,000.00
Intake Launch Orientation	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
	<b>\$115,859.38</b>	<b>\$110,859.38</b>	<b>\$105,859.38</b>	<b>\$105,859.38</b>
<b>Program Margin</b>	<b>\$65,581.25</b>	<b>\$141,726.25</b>	<b>\$88,436.25</b>	<b>\$88,436.25</b>

**Note:** Program Tuition: Full-time domestic student: \$11,055; Full-time international student: \$18,150; Part-time domestic: YR 1- \$6,030, YR 2- \$5,025.

**Co-op Potential:** If the decision is made to offer Co-op as an option for the program: 50% Co-op Instructor = \$58,437.00. The program margin level will support the funding of this option. Co-op work term revenues will help to reduce the additional instructor costs along with students enrolling in the prep 1-cr COOP 1101 course.

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Signature of Dean submitting concept document

Date

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Signature(s) of Dean(s) providing service courses

Date

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**G.2 Indicate the specific source(s) of funding for development, both internal and external.**

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**G.3 Indicate the specific source(s) of funding for delivery, both internal and external.**

## Appendix A: Internal Consultations

<b>DEPARTMENT</b>		<b>CONTACT</b>
<b>Office of the Provost</b>	<a href="#"><u>Provost and Vice President Academic</u></a>	Review meeting December 14, 2015: Reviewed tuition levels program offerings and delivery structure.
<b>University Registrar</b> (curriculum, university calendar, implementation date, policy)	<a href="#"><u>University Registrar</u></a>	Program development consultation meeting October 6, 2015: Reviewed program offerings, admission requirements and process, delivery structure.
<b>Admissions, Transfer Credit, and Graduation</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Admissions, Graduation and Enrolment Services</u></a>	Program review meeting October 6 and October 22, 2015: Reviewed program offerings, admission requirements and process, delivery structure.  Final recommendations wording adjustments sent and adopted Dec 2015
<b>Registration, Records, Scheduling, Course Curriculum</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Registration, Records and Scheduling</u></a>	Program review meeting October 22, 2015: Reviewed program offerings, admission requirements and process, delivery structure.  Final recommendations on program course acronyms and numbering adopted Dec 2015
<b>Student Awards and Financial Assistance</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Student Financial Services</u></a>	Program review meeting October 23, 2015: Reviewed program offerings, admission requirements and process, delivery structure. Final consultation Dec 2015. Discussions about definition of what a full-time programs means in relationship to student loan eligibility. This program is being deemed full-time - 3 terms, 33 credits. Which is different than one other KPU Post Bacc program.
<b>Central Advising</b>	<a href="#"><u>Manager, Academic Advising</u></a>	Program review November 17, 2015 via emails. "I appreciate how we are targeting individuals looking to change their careers or our international students an opportunity to have their credentials recognized beyond what we have been offering."
<b>Co-operative Education</b>	<a href="#"><u>Director, Co-op and Career Services</u></a>	Program review meeting October 23, 2015: Reviewed program offerings, admission requirements and process, delivery structure. Final recommendations wording adjustments sent and adopted Dec 2015
<b>Library Services</b> (collections, AV needs, etc)		Meet with Linda Rogers, reviewed program requirements, cost recovery structure of program to ensure funding would be available for new resources in the future. Recommendations made on management of resources for the program. All current business resources in place will support the program.
<b>International Education Office</b>	<b>Director, Admissions</b>	Program consultation meetings; request work experience option = inclusion of co-op option for fall intakes.
<b>School of Business</b>	<b>Faculty Council</b> <b>Curriculum Committee</b>	Faculty Council - Approved December 18, 2015 Curriculum Committee – Endorsed, Oct 16, 2015

## **Appendix B – Program Viability Report**

See separated **IAP Viability Report: December 14, 2015**

## **Appendix C – Library Assessment Template**

No submission: Brief review meeting held.

## Appendix D – Development & Implementation Timetable

Program Concept Development	September 2015 – April 2016	KPU approvals, Ministry posting period
Course and Curriculum Development	January 2015 – April 2016	Course Outline development
	May 2016 – November 2016	Course content development
Operation Development	March 2016 – May 2016	Admission process development
	May 2016 – September 2016	Cohort intake process development
	November 2016 - January 2017	First intake coordination
Marketing and Recruitment	March 2016 – May 2016	Planning and development
	May 2016 – onwards	Recruitment and Marketing execution

## Appendix E: Proposed Curriculum Framework

### Program Overview and Learning Outcomes

The Operations and Supply Chain Management Specialist (“OSCM”) program is designed for a student base that has completed a bachelor degree and has industry experience or a technical or sciences diploma and has significant relevant industry experience.

The OSCM program aims to provide the skill sets identified by business, government and academic advisory boards as critical to workplace achievement. The OSCM program consists of five (15 credits) management courses that will allow students to develop critical thinking and analysis skills, communication skills, effective project management abilities, teamwork and interpersonal skills, and attain a solid understanding of how to interpret and synthesize core business, financial and performance data to make informed decisions.

Through the completion of six (18 credits) of focused OSCM contents students will be able to apply best in practice processes and tools to a wide range of operations and supply chain areas, identify and assess performance improvement opportunities in a variety of industries, and competently support informed decision making. OSCM Content Learning Outcomes: Graduates will be able to:

- Complete successful transportation planning, inventory control, warehouse management, customer service standard design and implementation, product and process design and re-engineering, and development and execution of procurement strategies
- Determine the requirements, selection and plan the implementation of technology and information systems in supporting operations and managing the supply chain
- Utilize effective skills and proven models, tools and techniques for managing service operations
- Design and implement quality control and productivity improvement systems in operations and supply chains
- Assess supply chain management strategies in international settings
- Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability in operations and supply chain management.

With completion of the OSCM program, students will have also attained a strong applied management knowledge base, be able to demonstrate their ability in applying business, operations and supply chain management processes, tools and strategies as part of seeking their professional accreditation or designation in:

- Supply Chain Management Professional (“SCMP”) designation through the Supply Chain Management Association of Canada. <http://www.scmanational.ca>
- Project Manager Professional (“PMP”) certification through the Project Management Institute. <http://www.pmi.org>
- (“ASQ”) certification through the American Society for Quality. <http://asq.org>

### Program and Course Delivery Structure

Virtually all of the OSCM courses require students to complete applied business-based projects (research or case based or direct industry) as an outcome of the course. The developers of the program believe a key differentiator of the program will be to provide students with as many opportunities as possible to gain real-world experience in applying the skills they learn. In addition, OSCM applied project course is a comprehensive endeavour that provides students with an opportunity to integrate the knowledge and skill sets acquired in the program and apply them in a workplace setting.

As one of the target markets for this program is working professionals, the program will be delivered through Friday and Saturday classes that will be offered in-class, blended (in-class/on-line) and compressed (6 week).

Full-time students entering the program in the fall-term who are looking to gain work experience can complete a 4-month work experience placement (co-op) in the summer term. This option is only available for full-time students entering the program in the fall-term and must declare this option upon acceptance and complete the work-placement course in the fall term. A Co-op option for full-time students starting in the fall will only be available when both a fall and spring cohort are running.

## Curriculum

### Student Completion Path: 1-Fall Term Intake Model

This is the planned path for the launch year of the program. Subsequence years will follow the 2 Intake Model: 1-Fall Term and 1-Spring Intake as described below.

#### Full-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3 (completion term)
Accounting and Financial Management for Managers – 3 Cr.	Project Management – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.
Managing Dynamic Teams – 3 Cr.	Supply Chain & Logistics Management – 3 Cr.	Information Systems for Operations and Supply Chain Management – 3 Cr.
Quantitative Methods for Business Management – 3 Cr.	Quality Management – 3 Cr.	Applied Ops or SCM Project – 3 Cr.
Strategic Operations Management – 3 Cr.	Productivity, Innovation and Lean Systems – 3 Cr.	

Note: Students entering the program with the work-placement option (co-op) will complete a compressed work-placement readiness course in Term 1. This is only for full-time students entering the program in fall-term.

#### Part-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3
Accounting and Financial Management for Managers – 3 Cr.	Project Management – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.
Strategic Operations Management – 3 Cr.	Supply Chain & Logistics Management – 3 Cr.	Information Systems for Operations and Supply Chain Management – 3 Cr.
Term 4	Term 5	Term 6 (completion term)
Managing Dynamic Teams – 3 Cr.	Quality Management – 3 Cr.	Applied Ops or SCM Project – 3 Cr.
Quantitative Methods for Business Management – 3 Cr.	Productivity, Innovation and Lean Systems – 3 Cr.	

### Student Completion Paths: 2 Intake Model: 1-Fall Term and 1-Spring Intake

Completion Paths are identical for each intake. These paths are the intended paths for year 2 onward. This would allow of an overall intake of 50-70 students per academic year.

#### Full-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3 (completion term)
Accounting and Financial Management for Managers – 3 Cr.	Project Management – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.
Managing Dynamic Teams – 3 Cr.	Supply Chain & Logistics Management – 3 Cr.	Information Systems for Operations and Supply Chain Management – 3 Cr.
Quantitative Methods for Business Management – 3 Cr.	Quality Management – 3 Cr.	Applied Ops or SCM Project – 3 Cr.
Strategic Operations Management – 3 Cr.	Productivity, Innovation and Lean Systems – 3 Cr.	

#### Part-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3
Accounting and Financial Management for Managers – 3 Cr.	Quantitative Methods for Business Management – 3 Cr.	Quality Management – 3 Cr.
Strategic Operations Management – 3 Cr.	Project Management – 3 Cr.	Productivity, Innovation and Lean Systems – 3 Cr.
Term 4	Term 5	Term 6 (completion term)
Supply Chain & Logistics Management – 3 Cr.	Managing Dynamic Teams – 3 Cr.	Applied Ops or SCM Project – 3 Cr.
Information Systems for Operations and Supply Chain Management – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.	

### Course Descriptions

#### Core Management Courses

- **BUSM 5100 Accounting and Financial Management for Managers – 3 Credits** - An intensive course on accounting principles and practices as related to financial and managerial accounting. The course facilitates the student's ability to synthesize accounting and financial information in the decision-making of business managers – for example relevant costs, cost-profit-volume and break-even analysis, budgeting and cash flow management, working capital decisions etc.
- **BUSM 5110 Managing Dynamic Teams – 3 Credits** - This course will cover the skills needed to build, lead and motivate high-performance teams as a leader. It is intended to provide both a conceptual understanding, as well as experiential learning opportunities in the following areas: initial stages of team development (team climate, structure, goal setting), examining issues of power and control in team functioning (surfacing issues/concerns and managing conflict, dealing with unproductive participant behaviour, facilitating team problem solving and decision making, evaluating team performance and individual contributions, providing feedback on team behaviour). Working on virtual teams is an emerging challenge for many leaders and methods for working in these environments will be discussed.

- **BUSM 5120 Project Management – 3 Credits** – Students will learn the key concepts, tools and techniques that combine both the tactical and strategic approaches to project management. Emphasis will be focused on the larger context of contemporary project management, which includes the imperatives of ethics and social responsibility, and the reality of globalization.
- **BUSM 5130 Quantitative Methods for Business Management – 3 Credits** - This course teaches best practice quantitative methods used in both conventional and sustainable business settings today. The data management and modeling functions in which these tools are used exist in most mainstream business functions, e.g., marketing, operations management, finance, accounting, long term strategy and managerial economics.
- **BUSM 5140 Negotiations and Stakeholder Communications – 3 Credits** - This course will help you become a more effective communicator and decision-maker, learning proven techniques for building and maintaining relationships, applying appropriate power and influence, structuring agreements, and developing buy-in. This course examines core decision-making challenges and provides strategies and techniques to effectively engage your colleagues, staff, partners, customers, and clients in collaborative decision-making and negotiations.

#### **Operations and Supply Chain Management Courses**

- **OSCM 5100 Strategic Operations Management – 3 Credits** - An operations strategy refers to a set of operational decisions that a firm makes to achieve a long-term competitive advantage. The course covers strategic decisions in product and process design, technology, facilities, vertical integration, work design, and other areas, and also explores means of competition such as cost, quality, timeliness, productivity, customer service and innovativeness. Students will also analyse the intra-organizational relationships among the major functions both in manufacturing and service companies and the interface with the organization's suppliers, customers, and other stakeholders.
- **OSCM 5110 Information Systems for Operations and Supply Chain Management – 3 Credits** – This course will focus on three major components. First, it will explore the field of analytics applied to operations and supply chain management. Second, it will give students the opportunity to study and practice mathematical modeling and simulations related to operations topics (e.g., optimization, transportation, and scheduling). Third, the course will examine the implementation and use of information systems including hands-on familiarity with actual ERP software.
- **OSCM 5120 Quality Management – 3 Credits** – Students will demonstrate advanced understanding of a number of critical components of Quality Management as a conduit to organizational effectiveness. Specific outcomes include demonstrating an understanding of quality management in both manufacturing and service industries, and related concepts including SQC and SPC; Six Sigma and TQM; measurement of quality in services; and quality systems.
- **OSCM 5130 Productivity, Innovation and Lean Systems – 3 Credits** – Students will study the organic link between productivity and standard of living. The effects on productivity of the organization-level factors (i.e., lean systems; the Six M: manpower, machinery, materials, methods, measurement and mother-nature) will be analyzed in depth. The major importance of innovation (especially incremental innovation) for productivity gains will be examined in the context of understanding the typical processes that ensure the transformation of inputs into outputs both in manufacturing and in services.
- **OSCM 5140 Supply Chain & Logistics Management** – Students will receive an all-encompassing view of supply chain management. In addition to the analysis, strategy, design, implementation, and measurement of supply chains and logistics, the roles of several external forces (such as technology, globalization, government regulations, and consumerism) will be factored in for students to consider in developing imaginative solutions

to practical projects. Production and logistics technologies and metrics, and modeling approaches will also be examined. Additional topics include the study of inventory models, fulfillment management, transportation execution and control, and the management of reverse flows.

- **OSCM 5150 Applied Operations or Supply Chain Management Project – 3 Credits** – Students will complete an Operations or Supply Chain audit of an organization and submit suggestions destined to improve the existing Operations or Supply Chain metrics. Class work will include interactive sessions on planning and structuring the audits, solving specific Operations or Supply Chain problems and dealing with project management issues, and addressing – in a large group setting – complex problems encountered by groups and their client-organizations.

**Program Delivery Map – 1- Term Intake Model - Full-time and Part-time**

Course	Term 1		Term 2			Term 3		
	Friday	Saturday	Friday	Saturday		Friday	Saturday	
Accounting and Financial Management for Managers – 3 Cr.	In-class 3hrs – 3-6pm PT Path Course Yr-1				Potential Co-op Term for Fall FT In-Take ONLY – Students will then Take the Final 3 courses in the Fall Term			
Managing Dynamic Teams – 3 Cr.		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2						
Quantitative Methods for Business Management – 3 Cr.	Blended – When in Class 12-3pm PT Path Course Yr-2							
Strategic Operations Management – 3 Cr.		In-class 8:30-11:30am PT Path Course Yr-1						
Project Management – 3 Cr.								In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-1
Supply Chain & Logistics Management – 3 Cr.				Class 9am-12pm PT Path Course Yr-1				
Quality Management – 3 Cr.			In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2					
Productivity, Innovation and Lean Systems – 3 Cr.				Blended – When in Class 12:30-3:30pm PT Path Course Yr-2				
Negotiations and Stakeholder Communications – 3 Cr.							In-class 8:30-11:30am PT Path Course Yr-1	
Information Systems for Operations and Supply Chain Management – 3 Cr.							In-class 12pm-3pm PT Path Course Yr-1	
Applied Ops or SCM Project – 3 Cr.						Blended – When in Class 3-6 pm PT Path Course Yr-2		

**Program Delivery Map – 2 Intake Model: Term 1 and Term 2 Intake - Full-time and Part-time**

Course	Term 1		Term 2			Term 3	
	Friday	Saturday	Friday	Saturday		Friday	Saturday
Accounting and Financial Management for Managers – 3 Cr.	In-class 3hrs – 3-6pm Fall PT Path Course 1		In-class 3hrs – 3-6pm Spg. PT Path Course 1		Potential Co-op Term for Fall FT In-Take ONLY – Students will then Take the Final 3 courses in the Fall Term		
Managing Dynamic Teams – 3 Cr.		In-class Compressed 12-6pm (6 weeks) Spg. PT Path Course 5		In-class Compressed 12-6pm (6 weeks) Fall PT Path Course 9			
Quantitative Methods for Business Management – 3 Cr.	Blended – When in Class 12-3pm Fall PT Path Course 2		Blended – When in Class 12-3pm Spg. PT Path Course 2				
Strategic Operations Management – 3 Cr.		In-class 8:30-11:30am Fall PT Path Course 6		8:30-11:30am Fall PT Path Course 3			
Project Management – 3 Cr.			In-class Compressed 12-6pm (6 weeks) Fall PT Path Course 4			In-class Compressed 12-6pm (6 weeks) Spg. PT Path Course 3	
Supply Chain & Logistics Management – 3 Cr.				Class 9am-12pm Fall PT Path Course 7			Class 9am-12pm Fall PT Path Course 6
Quality Management – 3 Cr.			In-class Compressed 12-6pm (6 weeks) Fall PT Path Course 10			In-class Compressed 12-6pm (6 weeks) Spg. PT Path Course 4	
Productivity, Innovation and Lean Systems – 3 Cr.				Blended – When in Class 12:30-3:30pm Fall PT Path Course 8			Blended – When in Class 12:30-3:30pm Fall PT Path Course 5
Negotiations and Stakeholder Communications – 3 Cr.		In-class 8:30-11:30am Fall PT Path Course 7					In-class 8:30-11:30am Spg. PT Path Course 9
Information Systems for Operations and Supply Chain Management – 3 Cr.		In-class 12pm-3pm Fall PT Path Course 8					In-class 12pm-3pm Spg. PT Path Course 10
Applied Ops or SCM Project – 3 Cr.	Blended – When in Class 3-6 pm Spg. PT Path Course 11					Blended – When in Class 3-6 pm Fall PT Path Course 11	

## Appendix F: Position Profile of Related Occupations

Position profiles compiled from Human Resources and Services Department Canada: <http://www5.hrsdc.gc.ca/>

**Purchasing agents and officers (NOC 1225)** perform some or all of the following duties:

- Purchase general and specialized equipment, materials, land or access rights, or business services for use or for further processing by their establishment
- Assess requirements of an establishment and develop specifications for equipment, materials and supplies to be purchased
- Invite tenders, consult with suppliers and review quotations
- Determine or negotiate contract terms and conditions, award supplier contracts or recommend contract awards
- Establish logistics of delivery schedules, monitor progress and contact clients and suppliers to resolve problems
- Negotiate land acquisition or access rights for public or private use, and may conduct field investigations of properties
- May hire, train or supervise purchasing clerks.

Requirements:

- A bachelor's degree or college diploma in business administration, commerce or economics is usually required.
- Purchasing agents and officers purchasing specialized materials or business services may require a related university degree or college diploma. For example, a bachelor's degree or college diploma in engineering may be required for purchasers of industrial products.
- A certificate in purchasing from the Purchasing Management Association of Canada (PMAC) may be required.
- Previous experience as a purchasing clerk or as an administrative clerk may be required.

**Purchasing managers (NOC 0113)** perform some or all of the following duties:

- Plan, organize, direct, control and check the purchasing activities of a company or institution
- Create purchasing policies and procedures; control purchasing department budgets; identify dealers of materials, equipment or supplies
- Check cost and quality of goods or services; discuss or oversee the bargaining of purchase contracts
- Take part in the creation of requirements for equipment, products or other materials; look over and process claims against suppliers
- Interview, hire and oversee training of staff

Requirements:

- A bachelor's degree or college diploma in business administration, commerce or economics is usually required.
- Purchasing managers responsible for units purchasing specialized materials or business services may require a related degree or diploma. For example, a bachelor's degree or college diploma in engineering may be required for purchasing managers responsible for purchasing industrial products.
- The designation Supply Chain Management Professional (S.C.M.P.) or registration in the educational program of the Purchasing Management Association of Canada may be required.
- Several years of experience as a purchasing agent or officer are required.

**Senior managers in construction, transportation and production (NOC 0016)** in this group perform some or all of the following duties:

- Set goals for the company and create or approve policies and programs
- Approve and organize the creation of major departments and associated senior staff positions
- Assign material, human and financial resources to set up company policies and programs; establish financial and administrative controls

- Represent the company, or assign representatives to act on behalf of the company, in negotiations or other official functions

**Requirements:**

- A university degree or college diploma in engineering, business administration, commerce or other discipline related to the company's product is usually required.
- Several years of experience as a middle manager in goods production, utilities, transportation or construction are usually required.
- Specialization in a particular functional area or product is possible through specific university or college training in that area or through previous experience.

**Managers in transportation operations and freight traffic (NOC 0731)** perform some of all of the following duties:

- Plan, organize and direct the activities of companies or departments responsible for co-ordinating, arranging and monitoring the transportation and movement of goods
- Set operations policies and standards, including determination of safety procedures for the handling of dangerous goods, and ensure compliance with transport regulations
- Arrange for shipping documentation and oversee the scheduling and dispatching of goods and the tracking and tracing of goods in transit
- Negotiate with carriers, warehouse operators and insurance company representatives for services and preferential rates
- Control the company or departmental budget
- Oversee company's or department's performance, prepare reports for senior management, and plan for changes to schedules and policies
- Hire employees and oversee their training

**Requirements:**

- Bachelor's degree in business administration or engineering is usually required.
- Several years of experience in transportation operations are usually required, including supervisory experience.
- Extensive experience as a supervisor and operator in a particular transport mode, such as a pilot, train engineer, vessel master or truck driver, may substitute for formal education.

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**Construction managers (NOC 0711)** perform some of all of the following duties:

- Plan, organize, direct, control and evaluate construction projects from start to finish according to schedule, specifications and budget
- Prepare and submit construction project budget estimates
- Plan and prepare construction schedules and milestones and monitor progress against established schedules
- Prepare contracts and negotiate revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors
- Develop and implement quality control programs
- Represent their company on matters such as business services and union contracts negotiation
- Prepare progress reports and issue progress schedules to clients
- Direct the purchase of building materials and land acquisitions
- Hire and supervise the activities of subcontractors and subordinate staff

**Requirements:**

- A university degree in civil engineering or a college diploma in construction technology is usually required.
- A master's degree in project management may be required.
- Several years of experience in the construction industry, including experience as a construction supervisor or field superintendent, are usually required.
- Extensive experience in the construction industry may substitute for post-secondary education requirements.

- Professional engineering status or construction trade certification may be required by some employers.

**Retail and wholesale trade managers** (NOC 0621) perform some or all of the following duties:

- Plan, direct and evaluate the operations of establishments engaged in wholesale and retail sales or of departments in such establishments; manage staff and assign duties; decide staffing requirements and hire staff
- Study market research and trends to find out about consumer demand, potential sales volumes and the competition
- Study their clientele in order to understand what merchandise would sell best; buy merchandise to sell
- Set price and credit policies; develop and undertake marketing strategies
- Plan budgets and approve expenditures
- Settle customer complaints

Requirements:

- Completion of secondary school is required.
- A university degree or college diploma in business administration or other field related to the product or service being sold may be required.
- Several years of related retail sales experience at increasing levels of responsibility are usually required.

# Feasibility Assessment for the Proposed Operations and Supply Chain Management Post-Baccalaureate Diploma

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Prepared by the Office of Institutional Analysis & Planning  
Kwantlen Polytechnic University  
December 14, 2015

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## **1. Summary of Assessment**

The purpose of this report is to assess the labour market need, competitive environment, and student demand for the proposed Operation and Supply Chain Management Post-Baccalaureate Diploma program. Conclusions provided at the end of each chapter are duplicated below.

### **Description of KPU's Proposed Program**

The proposed Operation and Supply Chain Management Post-Baccalaureate Diploma program is designed for individuals who have completed a Bachelor degree or individuals with a diploma and significant relevant industry experience. As the program may be taken full-time (completed in 12 months) or part-time (completed in 24 months)<sup>1</sup>, the program is suitable for new degree graduates or working professionals.

The program consists of five management courses and six courses focussed on Operation and Supply Chain Management. Management courses will allow students to develop critical thinking and analysis skills, communication skills, effective project management abilities, teamwork and interpersonal skills, and attain a solid understanding of how to interpret and synthesize core business, financial and performance data to make informed decisions. The courses focussed on Operation and Supply Chain Management will allow student to apply best-in-practice processes and tools to a wide range of operations and supply chain areas, identify and assess performance improvement opportunities, and to competently support informed decision-making.

More specifically, the proposed program will prepare graduates to:

- Complete successful transportation planning, inventory control, warehouse management, customer service standard design and implementation, product and process design and re-engineering, and development and execution of procurement strategies.
- Determine the requirements, selection and plan the implementation of technology and information systems in supporting operations and managing the supply chain.
- Utilize effective skills and proven models, tools and techniques for managing service operations.
- Design and implement quality control and productivity improvement systems in operations and supply chains.
- Assess supply chain management strategies in international settings.
- Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability in operations and supply chain management.

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<sup>1</sup> Courses are offered in the evenings and on Saturdays.

## **Labour Market Demand Assessment**

B.C.'s *Skills for Jobs Blueprint* is government's plan to adjust education and training to target more programs that align with the high opportunity occupations<sup>2</sup> expected by 2024. KPU's proposed program aligns with three of the top 100 high-opportunity occupations that have been identified:

- NOC 1225 - Purchasing agents and officers
- NOC 1122 - Professional occupations in business management consulting
- NOC 0731 - Managers in transportation

In addition to employment opportunities in the three high-priority occupations listed above, the program will prepare graduates for the following occupational categories:

- NOC 1215 - Supervisors, supply chain, tracking and scheduling co-ordination occupations
- NOC 0113 - Purchasing Managers

A total of 10,680 job openings within the five occupational groups are expected to be created between 2015 and 2024 in BC (of which 7,850 openings are expected in the Mainland/Southwest region). The three opportunity occupations related to KPU's proposed program account for 74% of the 10,680 job openings in BC (7,900 jobs) and 71% of the 7,850 job openings in the Mainland/Southwest region (5,570 jobs). Over a ten-year period to 2024, demand for workers is expected to increase, in both BC and the Mainland/Southwest region, for all of the five occupational groups above.

Overall, the information suggests graduates from KPU's proposed Operations and Supply Chain Management Post-Baccalaureate Diploma program will have very good employment prospects upon graduation.

## **Competitive Assessment**

Four public postsecondary institutions in BC offer 11 certificate/ diploma programs in operations and supply chain management. TRU is the only institution that offers a Post-Baccalaureate Diploma in Supply Chain Management. In addition, two other public postsecondary institutions in BC offer related training (no credential awarded by the institutions upon completion), in collaboration with the Supply Chain Management Association (SCMA).

The strengths of KPU's proposed Operation and Supply Chain Management Post-Baccalaureate Diploma program include:

- Shorter completion time – KPU's proposed program is 33 credits (11 courses). Only one existing certificate program (UNBC) is shorter.<sup>3</sup>

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<sup>2</sup> To determine where demand for labour will be greatest, a number of factors influencing current and future market conditions were examined, including unemployment rates and employment growth, to identify the 100 high-opportunity occupations.

<sup>3</sup> Okanagan College has a 5 module certificate program, however, the program is not currently offered.

- The flexibility to enrol in the program as a full-time or part-time student – BCIT's diploma programs are for full-time students only and its certificate programs are for part-time students only. (Estimated completion time for other programs are not available).
- A co-op option for full-time students – A comprehensive internet search did not identify any other Operations and Supply Chain Management certificate or diploma program in BC that offered students a co-op option.
- A balanced blend of both management and specific operations and supply chain management courses, providing graduates with well-rounded skill set upon completion. UNBC's certificate program in Logistics and Supply Chain Management and SFU's Strategic Supply Chain Management Leadership program<sup>4</sup> are the only two programs that are designed to offer the same mix of courses.

The domestic tuition for KPU's proposed program will likely be between \$10,000 and \$11,100. On a program basis, KPU's domestic tuition would fall within the upper range of tuition charged by other institutions (\$2,900 to \$12,750). At the lower end of the range are certificate programs (tuition costs between \$2,900 and \$7,500), at the middle of the range are diploma programs (tuition costs between \$10,640 and \$11,000). At the upper end of the range is TRU's post-baccalaureate diploma program (estimated to cost around \$12,750). Comparing the domestic tuition for TRU's program and KPU's proposed program, KPU's proposed Post-Baccalaureate Diploma is somewhat more affordable.

The international tuition for KPU's proposed program is \$18,150. On a program basis, KPU's international tuition falls within the lower end of the range of tuition charged by other institutions (\$15,400 to \$36,410). Certificate programs, for which information is available, range from \$15,400 to \$16,500 and diploma programs range from \$36,060 to \$36,410. TRU's post-baccalaureate diploma program is estimated to cost around \$31,280. At \$18,150, KPU's program is very cost competitive, well under the tuition charged for diploma and post-baccalaureate diploma programs currently offered.

## **Student Demand Assessment**

KPU's School of Business degree graduates are a likely target audience for the Post-Baccalaureate Diploma in Operations and Supply Chain Management. Graduates of those programs may want to return to KPU, an institution where they completed their degree, to obtain their post-baccalaureate credential. Enrolments in Bachelor degree programs from the School of Business have increased steadily over the past five academic years to total around 4,040<sup>5</sup> in 2014/15.

Demand for current Operations and Supply Chain Management certificate/diploma programs in BC are increasing at a high rate. Full Time Equivalent (FTE) enrolments for related programs

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<sup>4</sup> Offered in collaboration with the Supply Chain Management Association (SCMA). No SFU credential is provided upon completion of the program.

<sup>5</sup> Headcounts are unduplicated within each program. A student may be counted across more than one program.

offered at other public postsecondary institutions<sup>6</sup> have increased by 94% between 2010/11 and 2014/15.

In addition, as mentioned in the previous section, labour market demand is expected to be high in related occupational categories. This indicates an increasing need for employees with the skills KPU's proposed program is designed to provide, which should also contribute to positive demand for the program.

Overall, the data examined suggests there will be very good demand for KPU's proposed Operation and Supply Chain Management (OPSC) Post-Baccalaureate Diploma program.

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<sup>6</sup> For which data is available.

## **2. Labour Market Demand**

This section provides an informed view of the labour market trends in BC for occupations related to the Operations and Supply Chain Management Post-Baccalaureate Diploma program.

Graduates of the Operations and Supply Chain Management Post-Baccalaureate Diploma program will be employable in both the public and private sector, within a large variety of industries such as manufacturing and services. Potential jobs titles include<sup>7</sup>:

- Business Analyst/ Consultant
- Capacity Planning and Scheduling Analyst
- Commodity Manager
- Construction Coordinator
- Construction Manager
- Consultant
- Contract Administrator
- Distribution Supervisor
- Inventory Specialist/ Analyst
- Logistics Coordinator
- Material Manager
- Operations Coordinator
- Operations Manager
- Operations Research Analyst
- Optimization Specialist
- Planning Analyst
- Point of Sale System Manager
- Procurement Officer
- Production Analyst
- Production Manager
- Project Manager
- Purchasing Agent/ Officer
- Purchasing Manager
- Quality Auditor
- Sourcing Analyst
- Supply chain/ Logistics Analyst
- Supply chain/ Logistics Manager
- Trade Consultant
- Transportation Manager

The above list is not exhaustive. Additional education/certification would further enhance the employability of graduates.

## **Employment Outlook<sup>8</sup>**

The Canadian labour force is aging rapidly with the result that skill shortages due to replacement demand are expected in all sectors of the Canadian economy. Between 2015 and 2024, 935,000 job openings are expected to be created in BC; 68% of these will be to replace retiring workers. Replacement demand will be important in every major occupational group in BC. Over this time period, market growth is expected to be driven by various industries, reflecting a robust and diverse economy. More than three-quarters of job openings projected

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<sup>7</sup> Sources: <http://www.concordia.ca/jmsb/services/career/students/careers-by-degree/supply-chain-op-mgmt.html#occupations>, [https://brocku.ca/business/future/undergraduate/programs/BBA/operations#Career\\_Options](https://brocku.ca/business/future/undergraduate/programs/BBA/operations#Career_Options), <http://www.careersinsupplychain.ca/careers-scm/>, <http://www.scmaab.ca/careers-in-scm/career-paths-in-supply-chain-management>, and <http://www.supplychaincanada.org/en/handouts>

<sup>8</sup> See Appendix C for information on labour market sources and the terminology used in this section.

to 2024 will require some post-secondary education and training. Over a third (36%) of job openings will require a university degree and/or significant work experience.

About half of total projected job openings over the ten-year outlook period are expected to be in three occupational groups: sales and service occupations, business, finance and administration occupations, and management occupations.

## ***Occupational Groups Related to Operations and Supply Chain Management***

With respect to the proposed Operations and Supply Chain Management Post Baccalaureate Diploma program, there are five occupational categories that are the most relevant:

- NOC 1225 - Purchasing agents and officers
- NOC 1122 - Professional occupations in business management consulting
- NOC 0731 - Managers in transportation
- NOC 1215 - Supervisors, supply chain, tracking and scheduling co-ordination occupations
- NOC 0113 - Purchasing Managers

Information about the employment outlook for these five occupational categories is summarized below.

### ***NOC 1225 - Purchasing agents and officers***

*“Purchasing agents and officers purchase general and specialized equipment, materials, land or access rights and business services for use or for further processing by their establishment. They are employed throughout the public and private sectors.”<sup>9</sup>*

Job titles specific to this subgroup include contract management officer, material management officer, purchasing agent and supply officer

The employment outlook for this category follows<sup>10</sup>:

- Approximately 2,230 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.1%.
  - Of these job openings, 77% will be due to replacement demand as a result of retiring workers and deaths, and 23% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 1,510 job openings are projected by 2024. This represents an annual demand growth rate of 1.1%.
  - Of these job openings, 75% will be due to replacement demand and 25% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>11</sup>:

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<sup>9</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>10</sup> Source: Labour Market Outlook Data Catalogue.

- Of the individuals employed in this area in 2011, 51% were male and 70% were working mostly full-time.
- 49% of the workforce was between the ages 45 and 64, and 46% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$53,000 and \$66,000 in 2011.

### **NOC 1122 - Professional occupations in business management consulting**

*“This unit group includes those who provide services to management such as analyzing the structure, operations, managerial methods or functions of an organization in order to propose, plan and implement improvements. They are employed by management consulting firms and throughout the public and private sectors or are self-employed.”<sup>12</sup>*

Job titles specific to this subgroup include business management consultant, senior consultant-operations management, and point of sale system manager.

The employment outlook for this category follows<sup>13</sup>:

- Approximately 3,420 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 0.8%.
  - Of these job openings, 78% will be due to replacement demand as a result of retiring workers and deaths, and 22% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 2,540 job openings are projected by 2024. This represents an annual demand growth rate of 0.9%.
  - Of these job openings, 75% will be due to replacement demand and 25% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>14</sup>:

- Of the individuals employed in this area in 2011, 60% were male and 51% were working mostly full-time.
- 52% of the workforce was between the ages 45 and 64, and 40% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$66,000 and \$95,000 in 2011.

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<sup>11</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/1225> (November 2015).

<sup>12</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>13</sup> Source: Labour Market Outlook Data Catalogue.

<sup>14</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/1122> (November 2015).

### **NOC 0731 - Managers in transportation**

*“Managers in transportation operations plan, organize, direct, control and evaluate the operations of transportation companies such as railways, airlines, bus lines, municipal transit systems, shipping lines and trucking companies, under the direction of a general manager or other senior manager. Managers in transportation freight traffic plan, organize, direct, control and evaluate companies or departments responsible for the transportation and movement of goods, under the direction of a general manager or other senior manager. They are employed by transportation, freight forwarding and shipping companies and by transportation departments of companies in retail and manufacturing sectors and utilities.”<sup>15</sup>*

Job titles specific to this subgroup include distribution manager, logistics manager, transportation manager and freight forwarding manager.

The employment outlook for this category follows<sup>16</sup>:

- Approximately 2,330 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 0.9%.
  - Of these job openings, 77% will be due to replacement demand as a result of retiring workers and deaths, and 23% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 1,510 job openings are projected by 2024. This represents an annual demand growth rate of 0.6%.
  - Of these job openings, 75% will be due to replacement demand and 25% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>17</sup>:

- Of the individuals employed in this area in 2011, 76% were male and 72% were working mostly full-time.
- 56% of the workforce was between the ages 45 and 64, and 40% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$66,000 and \$95,000 in 2011.

### **NOC 1215 - Supervisors, supply chain, tracking and scheduling co-ordination occupations**

*“Supervisors in this unit group supervise and co-ordinate the activities of workers in the following unit groups: Shippers and Receivers (1521), Storekeepers and Partspersons (1522), Production Logistics Co-ordinators (1523), Purchasing and Inventory Control*

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<sup>15</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>16</sup> Source: Labour Market Outlook Data Catalogue.

<sup>17</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0731> (November 2015).

*Workers (1524), Dispatchers (1525) and Transportation Route and Crew Schedulers (1526). They are employed throughout the private and public sectors.”<sup>18</sup>*

Job titles specific to this subgroup include dispatch logistician, head dispatcher, inventory control supervisor, logistics supervisor and supply control co-ordinator.

The employment outlook for this category follows<sup>19</sup>:

- Approximately 2,000 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 0.9%.
  - Of these job openings, 78% will be due to replacement demand as a result of retiring workers and deaths, and 22% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 1,680 job openings are projected by 2024. This represents an annual demand growth rate of 0.9%.
  - Of these job openings, 78% will be due to replacement demand and 22% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>20</sup>:

- Of the individuals employed in this area in 2011, 74% were male and 70% were working mostly full-time.
- 43% of the workforce was between the ages 45 and 64, and 52% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between 53,000 - \$66,000 in 2011.

### **NOC 0113 - Purchasing Managers**

*“Purchasing managers plan, organize, direct, control and evaluate the activities of a purchasing department and develop and implement the purchasing policies of a business or institution. They are employed throughout the public and private sectors.”<sup>21</sup>*

Job titles specific to this subgroup include contract manager, purchasing manager, procurement manager, purchasing manager, and supply chain logistics manager.

The employment outlook for this category follows<sup>22</sup>:

- Approximately 700 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.0%.
  - Of these job openings, 78% will be due to replacement demand as a result of retiring workers and deaths, and 22% will be due to new jobs that result from economic growth.

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<sup>18</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>19</sup> Source: Labour Market Outlook Data Catalogue.

<sup>20</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/1215> (November 2015).

<sup>21</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>22</sup> Source: Labour Market Outlook Data Catalogue.

- For the Mainland/Southwest region of BC, 610 job openings are projected by 2024. This represents an annual demand growth rate of 1.2%.
  - Of these job openings, 74% will be due to replacement demand and 26% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>23</sup>:

- Of the individuals employed in this area in 2011, 69% were male and 77% were working mostly full-time.
- 48% of the workforce was between the ages 45 and 64, and 49% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$66,000 and \$95,000 in 2011.

## Labour Market Demand Assessment

B.C.'s *Skills for Jobs Blueprint* is government's plan to adjust education and training to target more programs that align with the high opportunity occupations<sup>24</sup> expected by 2024. KPU's proposed program aligns with three of the top 100 high-opportunity occupations that have been identified:

- NOC 1225 - Purchasing agents and officers
- NOC 1122 - Professional occupations in business management consulting
- NOC 0731 - Managers in transportation

In addition to employment opportunities in the three high-priority occupations listed above, the program will prepare graduates for the following occupational categories:

- NOC 1215 - Supervisors, supply chain, tracking and scheduling co-ordination occupations
- NOC 0113 - Purchasing Managers

A total of 10,680 job openings within the five occupational groups are expected to be created between 2015 and 2024 in BC (of which 7,850 openings are expected in the Mainland/Southwest region). The three opportunity occupations related to KPU's proposed program account for 74% of the 10,680 job openings in BC (7,900 jobs) and 71% of the 7,850 job openings in the Mainland/Southwest region (5,570 jobs). Over a ten-year period to 2024, demand for workers is expected to increase, in both BC and the Mainland/Southwest region, for all of the five occupational groups above.

Overall, the information suggests graduates from KPU's proposed Operations and Supply Chain Management Post-Baccalaureate Diploma program will have very good employment prospects upon graduation.

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<sup>23</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0113> (November 2015).

<sup>24</sup> To determine where demand for labour will be greatest, a number of factors influencing current and future market conditions were examined, including unemployment rates and employment growth, to identify the 100 high-opportunity occupations.

### **3. Competitive Environment**

The main purpose of this section is to identify the public postsecondary education institutions in British Columbia that offer similar programs to the proposed Operations and Supply Chain Management Post-Baccalaureate Diploma program. This section also describes KPU's proposed program to provide context for the competitive assessment.

#### **Description of KPU's Proposed Program**

The proposed Operation and Supply Chain Management Post-Baccalaureate Diploma program is designed for individuals who have completed a Bachelor degree or individuals with a diploma and significant relevant industry experience. As the program may be taken full-time (completed in 12 months) or part-time (completed in 24 months)<sup>25</sup>, it is suitable for new degree graduates or working professionals.

The program consists of five management courses and six courses focussed on Operation and Supply Chain Management. The proposed program will prepare graduates to:

- Complete successful transportation planning, inventory control, warehouse management, customer service standard design and implementation, product and process design and re-engineering, and development and execution of procurement strategies.
- Determine the requirements, selection and plan the implementation of technology and information systems in supporting operations and managing the supply chain.
- Utilize effective skills and proven models, tools and techniques for managing service operations.
- Design and implement quality control and productivity improvement systems in operations and supply chains.
- Assess supply chain management strategies in international settings.
- Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability in operations and supply chain management.

The majority of Operation and Supply Chain Management courses require students to complete applied business-based projects (research or case based or direct industry). In addition, full-time students entering the program in the fall-term may complete a 4-month work experience placement (co-op).

Upon completion of the proposed program, students will have attained a strong foundation to seek their professional accreditation or designation through the Supply Chain Management Association of Canada, Project Management Institute, and/or the American Society for Quality.

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<sup>25</sup> Courses are offered in the evenings and on Saturdays.

## Related Programs at BC Public Postsecondary Institutions

Exhibit 1.1 provides a list of related certificate, diploma, and Continuing Studies programs offered by BC public postsecondary institutions. Four public postsecondary institutions offer 11 certificate/diploma programs in operations and supply chain management. TRU is the only institution that offers a Post-Baccalaureate Diploma program in supply chain management.

In addition to the four institutions, SFU and Douglas College both collaborate with the Supply Chain Management Association (SCMA) to offer Operations and Supply Chain Management training (that do not lead to a credential from the institutions upon completion). SFU's Continuing Education department offers a 36-month part-time program in Strategic Supply Chain Management Leadership. At Douglas College, various courses and seminars on Supply Management are available for students to choose from.

The certificate programs are part-time programs, allowing students to complete courses at their desired pace. BCIT's diploma programs are full-time and take two years to complete. TRU's Post-Baccalaureate Diploma program is 60 credits (completion time is not provided). A comprehensive internet search did not identify any institution that provided a co-op option to students.

Domestic student tuition for programs listed range from \$2,900 to \$12,750. International student tuition for programs listed (and for which information was available) range from \$15,400-\$36,410.

***Exhibit 1.1: Related Operations and Supply Chain Management Certificate/ Diploma/ Continuing Studies Programs at BC Public Postsecondary Institutions***

Institution	Credential	Length of Program	Estimate Cost of Program	Work Practice/ Co-Op Option	Program Name
BCIT	Diploma	2 years full-time (132 credits)	Domestic: \$10,635 <sup>1</sup> International: \$36,060 <sup>1</sup>	2 business consulting projects.	Business Operations Management
BCIT	Diploma	2 years full-time (125 credits)	Domestic: \$10,985 <sup>1</sup> International: \$36,410 <sup>1</sup>	One business consulting project	International Business Management (Global Supply Chain Option)
BCIT	Certificate	Part-time (48 credits)	Domestic: \$7,500 <sup>1</sup> International, in-class: \$16,500 <sup>2</sup>	Not listed	International Trade and Transportation Logistics
BCIT	Certificate	Part-time (47.5 credits)	Domestic: \$7,300 International, in-class:	Not listed	Operations Management (Industrial

*Feasibility Assessment of the Proposed Post-Baccalaureate Diploma in Operations and Supply Chain Management*

			\$16,060 <sup>2</sup>		<i>Engineering Option)</i>
BCIT	Certificate	Part-time (46 credits)	Domestic: \$7,300  International, in-class: \$16,060 <sup>2</sup>	Not listed	Operations Management (Facilities Management Option)
BCIT	Certificate	Part-time (47.5 credits)	Domestic: \$7,300  International, in-class: \$16,060 <sup>2</sup>	Not listed	Operations Management (Management Engineering Option)
BCIT	Certificate	Part-time (46 credits)	Domestic: \$7,300  International, in-class: \$16,060 <sup>2</sup>	Not listed	Operations Management (Materials Management Option)
BCIT	Certificate	Part-time (45 credits)	Domestic: \$7,000  International, in-class: \$15,400 <sup>2</sup>	Not listed	Operations Management (Quality Management Option)
Douglas College*	Does not lead to certification, Continuing studies	Part-time, students may complete one or all courses/ seminars	Domestic: \$7,893  International: Not listed	Not listed	Supply Management Training (Continuing Studies)
Okanagan College	Certificate	Five courses, estimated completion time not listed	Domestic: \$2,856  International: Not listed	Not listed	Production and Inventory Management (Continuing Studies) <sup>5</sup>
Simon Fraser University*	Does not lead to certification, Continuing studies	Part-time, 14 courses and 1 in-residence session	Not listed	Not listed	Strategic Supply Chain Management Leadership (Continuing Studies)
Thompson Rivers University	Post Baccalaureate Diploma	20 courses, estimated completion time not listed (60 credits)	Domestic Tuition: \$12,750 <sup>3</sup>  International Tuition: \$31,280 <sup>4</sup>	Not listed	Supply Chain Management
University of Northern BC	Certificate	20 courses (20 days)	Domestic: \$4,900  International: Not listed	Not listed	Supervisory Excellence: Logistics and Supply Chain

## Feasibility Assessment of the Proposed Post-Baccalaureate Diploma in Operations and Supply Chain Management

					Management (Continuing Studies)
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Source: Institutional Websites (November 2015).

Notes:

\* Offered in collaboration with the Supply Chain Management Association (SCMA).

<sup>1</sup> BCIT cost estimate

<sup>2</sup> International tuition fees for part-time studies courses are 2.2 times the published domestic rate.

International tuition fees for distance & online learning courses are 1.25 times the published domestic rate.

Source: <http://www.bcit.ca/international/programs/fees.shtml> (December 2015).

<sup>3</sup>Cost of Post-Baccalaureate Diploma in Business (same number of credits as Post-Baccalaureate Diploma in Supply Chain Management). Source: TRU Program Calculator.

<sup>4</sup>Based on Post-Baccalaureate program cost of \$527 per credit and the same number of credit hours as the Post-Baccalaureate Diploma in Business program.

<sup>5</sup> Not currently offered

An overview of each program follows.

**BCIT's** full-time, Business Operations Management diploma program may be completed in two years. Students learn how organizations create, control, and optimize the business systems as well as how to assess and improve productivity throughout an organization. The program includes two business consulting projects.

**BCIT's** full-time, International Business Management diploma program may be completed in two years. Students learn to analyze international markets, plan product entry strategies, and examine transportation routes to grow global trade. The program includes a business consulting project.

**BCIT** offers six related part-time Operations Management certificate programs, each focused on a specific topic:

- Operations Management in Industrial Engineering certificate is designed for individuals who work, or wish to work, in the manufacturing/warehousing functions of an organization.
- Operations Management in Facilities Management certificate is designed for individuals interested in the management and development of the workplace to integrate people and their work in the operation to achieve organizational objectives. Topics of study include project management, operations management, and facilities planning.
- Operations Management in Management Engineering certificate is designed for individuals interested in ways in which management engineering tools may be applied to organizations. Topics of study include quality assurance, project management, operations management, and business process improvement.
- Operations Management in Materials Management certificate is designed for individuals involved in materials management, buying, or related professions, or those choosing careers in purchasing, accounting, production supervision, traffic or warehousing.
- Operations Management in Quality Management certificate provides graduates with the skills to implement a cost-effective quality management system with its technical, legal and human aspects, in any organization.

- International Trade & Transportation Logistics certificate is designed for individuals engaged in both the buying and selling of goods and their movement. Topics of study include transportation systems, and logistics management.

**Okanagan College's** certificate program is currently not offered in 2015/16 but the program allows students to develop specialized technical knowledge and expertise in production and inventory management techniques and trends, including production planning, material and capacity requirements planning, manufacturing excellence, Just-in-Time, and systems and technologies.

**TRU's** Post-Baccalaureate Diploma in Supply Chain Management is designed for individuals with a non-business degree or those who want to acquire a specialty. Topics covered include: accounting, marketing, supply chain management, procurement management, operations management, logistics and transportation.

**UNBC's** Certificate in Supervisory Excellence: Logistics and Supply Chain Management Continuing Studies program is designed for new and aspiring supervisors. Half of the program (10 courses) is dedicated to providing fundamental supervisory skills and the other half of the program is dedicated to provide knowledge and skills in various supply chain management areas including operations, project management, logistics, distribution and financial systems.

## Competitive Assessment

Four public postsecondary institutions in BC offer 11 certificate/ diploma programs in operations and supply chain management. TRU is the only institution that offers a Post-Baccalaureate Diploma in Supply Chain Management. In addition, two other public postsecondary institutions in BC offer related training (no credential awarded upon completion), in collaboration with the Supply Chain Management Association (SCMA).

The strengths of KPU's proposed Operation and Supply Chain Management Post-Baccalaureate Diploma program include:

- Shorter completion time – KPU's proposed program is 33 credits (11 courses). Only one existing certificate programs (UNBC) is shorter.<sup>26</sup>
- The flexibility to enrol in the program as a full-time or part-time student – BCIT's diploma programs are for full-time students only and its certificate programs are for part-time students only. (Estimated completion time for other programs are not listed).
- A co-op option for full-time students – A comprehensive internet search did not identify any other Operations and Supply Chain Management certificate or diploma program in BC that offered students a co-op option.
- A balanced blend of both management and specific operations and supply chain management courses, providing graduates with well-rounded skill set upon completion. UNBC's certificate program in Logistics and Supply Chain Management and SFU's

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<sup>26</sup> Okanagan College has a five-course certificate program, however, the program is not currently offered.

Strategic Supply Chain Management Leadership program<sup>27</sup> are the only two programs that are designed to offer the same mix of courses.

The domestic tuition for KPU's proposed program is \$9,075. On a program basis, KPU's domestic tuition falls within the upper range of tuition charged by other institutions (\$2,900 to \$12,750). At the lower end of the range are certificate programs (tuition costs between \$2,900 and \$7,500), at the middle of the range are diploma programs (tuition costs between \$10,640 and \$11,000). At the upper end of the range is TRU's post-baccalaureate diploma program (estimated to cost around \$12,750). Comparing the domestic tuition for TRU's program and KPU's proposed program, KPU's proposed Post-Baccalaureate Diploma is more affordable.

The international tuition for KPU's proposed program is \$18,150. On a program basis, KPU's international tuition falls within the lower end of the range of tuition charged by other institutions (\$15,400 to \$36,410). Certificate programs, for which information is available, range from \$15,400 to \$16,500 and diploma programs range from \$36,060 to \$36,410. TRU's post-baccalaureate diploma program is estimated to cost around \$31,280. At \$18,150, KPU's program is very cost competitive, well under the tuition charged for diploma and post-baccalaureate diploma programs currently offered.

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<sup>27</sup> Offered in collaboration with the Supply Chain Management Association (SCMA). No SFU credential is provided upon completion of the program.

### 3. Student Demand

The purpose of this section is to explore the extent of student demand for the proposed program mainly by examining the historic participation rates in related programs.

#### Enrolments

##### *KPU School of Business Enrolments*

Enrolments in KPU's School of Business increased by 14% over the five-year period from 2010/11 to 2014/15 academic years, as shown in Exhibit 2.1. Bachelor degree programs, which are the most popular, have steadily increased within the past five years (up 70% between 2010/11 and 2014/15). Enrolments in the Post-Baccalaureate Diploma programs have been fairly steady.

**Exhibit 2.1: KPU School of Business Enrolments by Credential Level, 2010/11 to 2014/15**

Credential Type	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Baccalaureate degree	2,220	2,921	3,337	3,637	3,770
Associate degree	72	92	96	106	104
Diploma	3,110	2,808	2,685	2,554	2,423
Certificate	481	515	450	416	392
Post Baccalaureate Diploma	76	74	63	73	77

Source: KBIT (November 2015).

Note: Headcounts are unduplicated within each credential level. A student may be counted across more than one credential level.

Exhibit 2.2 shows enrolments in all Bachelor degree programs in the School of Business for the past five academic years. Enrolments in 4 of the 5 programs (Accounting, Human Resources Management, Marketing Management and Information Technology) have increased over the past five years. Enrollments in Entrepreneurial Leadership have been steady. In 2014/15, the enrolment in the Bachelor degree programs totalled around 4,040.

**Exhibit 2.2: KPU School of Business Headcounts by Bachelor Degree Programs, 2010/11 to 2014/15**

Program	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Bachelor of Business Administration in Accounting *	978	1,281	1,474	1,577	1,627
Bachelor of Business Administration in Entrepreneurial Leadership *	609	608	628	605	609
Bachelor of Business Administration in Human Resources Management *	556	648	752	798	805
Bachelor of Business Administration in Marketing Management *	108	365	486	612	677
Bachelor of Technology in Information Technology *	83	82	196	279	320

Source: KBIT (November 2015).

Notes: Headcounts are unduplicated within each program. A student may be counted across more than one program.

\* denotes inclusion of Co-Op Education Option programs.

**Enrolments in Related Programs at Other BC Public Postsecondary Institutions**

Full Time Equivalent (FTE) enrolments for 2010/11 to 2014/15 for related programs currently offered at other institutions in BC are shown in Exhibit 2.3. FTE enrolments in the listed programs have been steadily increasing year over year to reach a high of 152 FTEs in 2014/15 (an increase of 94% over 2010/11).

**Exhibit 2.3: FTEs in Related Programs at other Public Institutions, 2010/11 to 2014/15**

Program Name	2010/11	2011/12	2012/13	2013/14	2014/15
BCIT: Business Operations Management (Diploma)	39.8	73.7	69.9	83.0	77.0
BCIT: Int Bus Mgmt – Global Supply (Diploma)	-	16.13	21.26	24.57	21.83
BCIT: Intl Trade & Trans Logistics (Certificate)	9.92	8.55	12.90	17.22	15.65
BCIT: Op Mgmt - Facilities Management (Certificate)	2.2	2.5	2.5	4.6	2.2
BCIT: Op Mgmt - Industrial Engineer (Certificate)	3.3	2.3	2.8	2.6	2.9
BCIT: Op Mgmt - Management Engineer (Certificate)	1.1	1.4	2.2	2.3	3.2
BCIT: Op Mgmt - Materials Management (Certificate)	6.4	8.6	8.2	9.8	11.3
BCIT: Op Mgmt - Quality Management (Certificate)	5.0	3.8	4.8	3.9	3.0
DOUG: Purchasing Principles / CE Purchasing Principles	8.0	10.9	15.0	16.3	13.7

Program Name	2010/11	2011/12	2012/13	2013/14	2014/15
OKAN: Production and Inventory Management (Certificate)	2.5	3.3	3.7	1.3	1.1

Source: BC's Central Data Warehouse (May 2015 data).

Note: Data for programs offered at BC's public research-intensive universities are not available at the level required.

## Student Demand Assessment

KPU's School of Business degree graduates are a likely target audience for the Post-Baccalaureate Diploma in Operations and Supply Chain Management. Graduates of those programs may want to return to KPU, an institution where they completed their degree, to obtain their post-baccalaureate credential. Enrolments in Bachelor degree programs from the School of Business have increased steadily over the past five academic years to total around 4,040<sup>28</sup> in 2014/15.

Demand for current Operations and Supply Chain Management certificate/diploma programs in BC are increasing at a high rate. Full Time Equivalent (FTE) enrolments for related programs offered at other public postsecondary institutions<sup>29</sup> have increased by 94% between 2010/11 and 2014/15.

In addition, as mentioned in the previous section, labour market demand is expected to be high in related occupational categories. This indicates an increasing need for employees with the skills KPU's proposed program is designed to provide, which should also contribute to positive demand for the program.

Overall, the data examined suggests there will be very good demand for KPU's proposed Operation and Supply Chain Management (OPSC) Post-Baccalaureate Diploma program.

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<sup>28</sup> Headcounts are unduplicated within each program. A student may be counted across more than one program.

<sup>29</sup> For which data is available.

## **Appendix A: Labour Market Information Sources**

There are many sources of labour market information in Canada. At the federal level, the main sources are Statistics Canada, Employment and Social Development Canada (ESDC) (formerly Human Resources and Skills Development Canada), Industry Canada, and Citizenship and Immigration Canada. Provincial and territorial governments also produce provincial, regional, and local labour market information.

The ESDC uses the models of the Canadian Occupational Projection System (COPS) to develop projections of future trends in the numbers of job openings and job seekers by occupation and industry at the national level. At the occupation level, the projections are based on the National Occupational Classification (NOC), while at the industry level, the projections are based on the North American Industry Classification System (NAICS). The projections allow for identifying those occupations that may face labour shortage or labour surplus conditions over the medium term. The latest projections cover the 2015 to 2024 period.

The NOC system classifies 40,000 job titles into 500 occupational groups using 4-digit codes. The NOC system classifies occupations by skill level and skill type. Each digit of a NOC code reflects a trait of the occupation it represents. The first digit designates the occupation's skill type and the second digit identifies the occupation's skill level. The first two digits together identify the 26 major occupational groups. At the 4-digit level, the NOC System provides information on 520 occupational groups called unit groups.

The NAICS classifies industries and businesses using six-digit codes that classify North American businesses by type of economic activity. Depending on the level of detail required, the classifications can be aggregated to 2- (major industry), 3- (industry subsector), and 4-digit (subsector group) levels.



## Senate Standing Committee on University Budget

**Agenda Item #:** 9

**Meeting Date:** January 22, 2016

**Presenter(s):** Duane Radcliffe

**Agenda Item:** Post Baccalaureate Diploma: Technical Management and Services

<b>Action Requested:</b>	<input checked="" type="checkbox"/> Motion to Approve <input type="checkbox"/> Discussion <input type="checkbox"/> Information <input type="checkbox"/> Education
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<b>Recommended Resolution:</b>	<b>THAT the Senate Standing Committee on University Budget endorse the Program Concept for a Post Baccalaureate Diploma, Technical Management and Services, and recommend it to Senate.</b>
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**Context & Background:** The program concept and full program proposal were endorsed by the Senate Standing Committee on Curriculum (January 13, 2016) and by the Senate Standing Committee on Academic Planning and Priorities (January 15, 2016). The Senate Standing Committee on University Budget's review of the program concept will focus on the budgetary impact and cost/revenue analysis.

**Key Messages:**  
*[maximum of three]*

1. Self-Funded new programming to support the 5% FTE annual growth, that is designed to meet the time availability requirements of emerging professionals and aligns with the utilization of new KPU infrastructure
2. Distinctive program aligned to industry and labour market, designed to support emerging professionals in key regional and provincial economic development regions  
Program curriculum continue to enhance KPU's industry standing as it will leverage industry partnerships and relationship for experiential learning and applied projects / research. Will allow the School of Business to expand its support of applied project partnerships with the regions economic development bodies and agencies (City Gov't, Boards of Trade, Industry Associations, Professional Associations).
3. Program curriculum is designed to build strong international student interest, and has been designed to allow for the offering of work experience (co-op) for one term – only for fall intakes.

**Resource Requirements:** Self-Funded program design to be eventually offered out of Civic Center 3

**Implications / Risks:** *Current brand recognition is a risk to the recruitment, management of international enrollment – right international student being recruited.*

**Consultations:** *See concept document*

**Attachments:** *TMAS Program Concept document  
IAP program viability assessment document*

**Submitted by:** *Wayne Tebb, Dean, School of Business and Duane Radcliffe, Associate Dean, School of Business*



**Senate Standing Committee on University Budget**

**Agenda Item #:** 9

**Meeting Date:** January 22, 2016

**Presenter(s):** Duane Radcliffe

**Date submitted:** *January 18, 2016*

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**A. *Originating Group*****1. Internal Developers**

Contributing Faculty:	Brad Anderson Carlos Calao Marcelo Machado Richard Wong	Faculty:	School of Business
Project Lead:	Duane Radcliffe, Associate Dean	Dean:	Wayne Tebb

**Date:** December 18, 2015

If joint educational offering, name of other institution:

**Note: Requirements outlined in the joint educational policy must be met before proceeding to full program proposal.**

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**B. *Basic Information*****B.1 Name of proposed program**

Technical Management and Services ("TMAS")

**B.2 Proposed credential to be granted**

Under Policy L.5 Post Baccalaureate Diploma. Post Degree Diploma – Preferred.

**B.3 Expected length of program (in years):**

One Year for full-time participants

Two Years for part-time participants

**B.4 Anticipated start date of program:**

Spring 2017

**B.5 Is this a cohort, selective entry, or open access program?**

Cohort for full-time participants – 25 seats will be allocated per cohort intake. The program will be launched in the Spring 2017 term (Launch Cohort). The second cohort will be Fall 2017. If market demand is high a second cohort per academic year will be offered with Fall and Spring intakes occurring.

Limited entry for part-time cohort – 5-10 seats will be allocated per fall and spring term intake depending on full-time cohort intakes. If there is strong demand for part-time entrance, in any term a second full 30 part-time student cohort will be launched.

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**B.6 How many students would you expect to enroll in each year of the program? How will the program be rolled out if you are not using a cohort model?**

Cohort for full-time participants – 25 seats will be allocated per cohort intake (fall and spring term intakes). The program will be launched in the Spring 2017 term intake (year 1 or launch intake). The second intake will be Fall of 2017.

Limited entry cohort for part-time – 5-10 seats will be allocated per fall and spring term intakes depending on full-time cohort intakes. If there is strong demand for part-time entrance, part-time admissions will be increased to a full 30 part-time student cohort.

**Launch Intake**

<b>Cohort Option</b>	<b>Spring 2017 Term</b>	<b>Academic Year Total</b>
Full-time	25 max	25 max
Part-time	5-10 max	5-10 max
<b>Total</b>	<b>30-35 max</b>	<b>35 max</b>

**Subsequence Years - Intake Per Academic Year**

<b>Cohort Option</b>	<b>Fall Term</b>	<b>Spring Term</b>	<b>Academic Year Total</b>
Full-time	25 max	25 max	50 max
Part-time	5-10 max	5-10 max	10-20 max
<b>Total</b>	<b>30-35 max</b>	<b>30-35 max</b>	<b>60-70 max</b>

Note: While course class size will be set at 35 students, intakes will be managed include part-time students thus some course will not be fully utilized. This will allow for seat availability in a class for students who may need to repeat a course or enter part-time studies with PLA in other courses.

## **C. Access**

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- C.1. What entry requirements should applicants be expected to meet? If there are multiple entry points, please specify requirements for each. (A graphic representation of this may be attached as Appendix C. Are entrance requirements appropriate? Are students likely to be successful?)**

In addition to the School of Business Admission Requirements, which consist of KPU's [undergraduate English Proficiency Requirement](#), the following program admission requirements apply:

- Successful completion of a recognized technical or science based undergraduate or graduate degree (engineering, applied and natural sciences, information technology, computer sciences)
- Or
- Successful completion of a recognized technical or science based Diploma with minimum of 5 yrs of related technical, applied science or operations related work experience. (Examples of acceptable diploma disciplines of study – engineering, applied and natural sciences, information technology, computer sciences) Resumes will be required and the program will review and determine admission for such applicants.

- C.2. Will the structure of the program allow for full-time, part-time, evening, weekend, on-line, mixed-mode delivery methods, or a combination of any of these? (Identify each as appropriate).**

The program will be made accessible through a variety of delivery methods offering a full-time cohort intake option and limited part-time cohort intake. The program is designed to meet the needs of participants who are currently working full-time thus the delivery of courses will be via in-class and via blended in-class / on-line. Courses will be offered on Thursday evenings and Saturdays and will utilize compressed mode(s) for some content areas. Please see Appendix E.

The program will be initially offered on Surrey Campus. The plan is move the program to the new Surrey Civic Center 3 campus.

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## **D. Program Description**

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- D.1. Identify how the proposed program supports Kwantlen's mission, mandate, strategic and academic plans?**
- 

### **Industry and Labour Market Alignment**

The TMAS program has been designed to align and meet several critical outcomes of the B.C. Government's Skills Blue Print and BC Labour Market 2022<sup>1</sup> and 2024<sup>2</sup> Outlook studies. The programs learning outcomes are directly aligned to 8 occupational categories of which 4 have been identified as high labour market competitiveness in 2022 in the B.C Government's labour market data<sup>3</sup>. Further details are available in Section E, E2. The program further aligns to:

- Helping address one of the B.C. Chamber of Commerce's top 12 key issues facing the B.C.s business community - Productivity. <http://www.bcchamber.org/key-issues>.
- Business Council of B.C focus on supporting new ways of doing business with regards to Trade, Productivity

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1 <http://www.workbc.ca/WorkBC/files/5f/5fc26f16-3c0f-4884-ab99-b475ca7448b7.pdf>

2 [https://www.workbc.ca/getmedia/6c371a90-baaa-4011-90f4-1830c56b5d29/BC-LM-Outlook-2014-2024\\_C.pdf.aspx](https://www.workbc.ca/getmedia/6c371a90-baaa-4011-90f4-1830c56b5d29/BC-LM-Outlook-2014-2024_C.pdf.aspx)

3 <https://www.workbc.ca/Navigator/>

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and Innovation. <http://www.bcbc.com/key-issues>

### KPU Strategic and Academic Plan

- Self-Funded new programming to support the 5% FTE annual growth
  - Distinctive program aligned to industry and labour market, designed to support emerging professionals in key regional and provincial economic development regions
  - Program designed to meet the time availability requirements of emerging professionals and aligns with the utilization of new KPU infrastructure
  - Program curriculum continue to enhance KPU's industry standing as it will leverage industry partnerships and relationship for experiential learning and applied projects / research. Will allow the School of Business to expand its support of applied project partnerships with the regions economic development bodies and agencies (City Gov't, Boards of Trade, Industry Associations, Professional Associations)
  - Program curriculum is designed to build strong international student interest in regions where there is strong infrastructure development and technical advancement: South America, Asia.
- 

D.2 Explain how current faculty are able to deliver the program, and if they are not, how this issue will be addressed.

Below is a summary of the Faculty in the School of Business that would be qualified to teach courses in this program.

Course	# Qualified FT Faculty	# Qualified Contract Faculty
Accounting and Financial Management for Managers – 3 Cr.	6	2
Managing Dynamic Teams – 3 Cr.	5	
Quantitative Methods for Business Management – 3 Cr.	4	
Project Management – 3 Cr.	3	
Negotiations and Stakeholder Communications – 3 Cr.	4	
Business Law for Technical Management and Services – 3 Cr.	2	2
Business Planning and Performance for Technical Businesses– 3 Cr.	4	1
Consulting and Client Management Practices – 3 Cr.	3	2
Managing Technical Business Growth – 3 Cr.	3	
Sustainable Operations – 3 Cr.	2	2
New Product and Services Development – 3 Cr.	3	1

### Recruitment Qualifications:

	Description
Minimum Requirements	<ul style="list-style-type: none"><li>• Masters in related area: MBA, Engineering Management, Technology Management</li><li>• Five (5) years of senior management experience (director level or higher) in operations, engineering management, technology management or applied science leadership. Accounting for accounting and financial management for managers course.</li><li>• Demonstrated track record of developing emerging professionals</li></ul>
Additional Qualifications	<ul style="list-style-type: none"><li>• Proven experience managing productivity improvements, large projects and client management</li><li>• Experience in corporate R&amp;D</li><li>• Experience managing quality standards and assurance (e.g. ISO, six-sigma, etc)</li><li>• Experience in service or production operations</li></ul>

	<ul style="list-style-type: none"> <li>Teaching experience at post secondary level an asset.</li> </ul>
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## E. Outcomes

### E.1 Will this program allow students to continue with further study?

Describe laddering, bridging, or post-credential continuation of education.

With completion of the TMAS program, students will have attained a strong applied management knowledge base; be able to demonstrate their ability in applying business and management processes, tools and strategies.

Course work will also typically qualify for participant professional development requirements of their current professional designations.

### E.2 What is the nature of the work students are being prepared for? Include current labour market data that shows a demand for this type of graduate.

The table below summarizes the projected labour market demand in B.C. in a number of technical management and service occupations.

Occupation	NOC	Occup. Size	New jobs 2012-2022			Projected Unemployment Rate		Competitiveness of Job Market in BC	
			#	% Replace.	% New	2017	2022	2017	2022
Engineering Managers	0211	2,000	4,000	71%	29%	4.9%	2.7%	1:1	1:2
Computer and Information systems managers	0213	5,800	4,000	71%	29%	4.9%	2.7%	1:1	1:2
Architecture and science managers	0212	1,000	4,000	71%	29%	4.9%	2.7%	1:1	1:2
Sr. Managers, construction, production, utilities	0016	5,700	15,000	79%	21%	4.9%	2.7%	1:1	1:2
Manufacturing Managers	0911	8,700	6,300	77%	23%	4.9%	2.8%	1:1	1:1
Utilities Managers	0912	1,800	6,300	77%	23%	4.9%	2.8%	1:1	1:1
Construction Manager	0711	12,400	15,300	70%	30%	4.8%	2.8%	1:1	1:1
Managers in natural resources production	0811	2,300	1,600	67%	33%	4.2%	3.1%	1:1	1:1
Professional occupations: business management consulting	1122	7,600	9,200	68%	32%	4.8%	2.6%	1:1	1:1

Notes:

1. Competitiveness of job Market in B.C. Ratio of number of unemployed people to number of new job openings

2. Source [www.workbc.ca](http://www.workbc.ca)

The table below summarizes the key element of projected jobs in BC in a number of technical management and service occupations.

Occupation	Ave Salary Range	Top Three Regional Employment Locations	LNG Need	Top 60 Job Ranking
Engineering Managers	\$125,000-+	North Coast & Nechako; Mainland/Southwest; Kootenay	Yes	56
Computer and Information systems managers	\$95,000-\$125,000	North Coast & Nechako; Mainland/Southwest; Kootenay		
Architecture and science managers	\$66,000-\$95,000	North Coast & Nechako; Mainland/Southwest; Kootenay		
Sr. Managers, construction, transportation, production, utilities	\$125,000-+	Northeast; North Coast & Nechako; Mainland/Southwest	Yes	18
Manufacturing Managers	\$66,000-\$95,000	Thompson-Okanagan; North Coast & Nechako; Mainland/Southwest		
Utilities Managers	\$95,000-\$125,000	North Coast & Nechako; Mainland/Southwest; Vancouver Island/Coast		
Construction Manager	\$95,000-\$125,000	Northeast; North Coast & Nechako; Cariboo	Yes	8
Managers in natural resources production	\$95,000-\$125,000	Northeast; North Coast & Nechako; Cariboo		
Professional occupations: business management consulting	\$66,000-\$95,000	Kootenay; North Coast & Nechako; Mainland/Southwest		19

Notes:

1. Source: <http://www.workbc.ca/WorkBC/files/5f/5fc26f16-3c0f-4884-ab99-b475ca7448b7.pdf>
2. Source: [www.workbc.ca](http://www.workbc.ca)

Appendix F summarizes the position profiles for the nature of the work graduates of the TMAS program are being prepared for as ranked on the BC 2022 Labour Market Outlook top 60 jobs and listed in the BC 2024 Labour Market Outlook with a competitiveness high ranking.

We have identified the following key segments with regards to prospective students:

- Graduates with an applied science or technical bachelor degree who wish to pursue further education in business and management.
- Mid-level technical specialists working full-time with some post secondary education seeking to upgrade their skills in business and management through part-time studies.
- International students seeking to upgrade their skills in technical management and services from an accredited university.
- Immigrants whose education from other countries is not recognized by certification bodies and professional associations in Canada. This segment will likely be attracted to the idea of leveraging their prior learning and experience into a post-baccalaureate that will help facilitate their entry in the labour market.

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## ***F. Institutional Resources***

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- F.1** What expertise, equipment, facilities and library resources will the program require to support student learning? Ensure that any required new resources in these areas are identified in the Costs section (G).

Library resources: No further resources required.

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- F.2** Outline anticipated requirements for equipment, specialized space, etc.: (classrooms, labs, shops, general space)

Classroom set up for case based learning will be required. Ideally breakout rooms or spaces would be available to class working groups.

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**G. Costs and Revenue** (to be prepared by Dean/Associate Dean in consultation with developer)

Budgetary requirements are provided for information purposes only. Program approval does not ensure budgetary support.

**Student Completion Path: 1- One Intake Per Academic Year - Financial Mode**

	AC YR 1	AC YR 2	AC YR 3	AC YR 4
<b>Domestic</b>				
Full-Time	22	15	15	15
Part- Time	9	10	10	10
Part-Time - Previous YR intake		7	7	7
<b>International</b>				
Full-Time	4	6	6	6
<b>Total Intake</b>	<b>35</b>	<b>38</b>	<b>38</b>	<b>38</b>

**REVENUE****Domestic Tuition (\$335/cr.)**

Full-time (11 courses, 33 credits)	\$243,210.00	\$165,825.00	\$165,825.00	\$165,825.00
Part-time (6 courses, 18 credits)	\$54,270.00	\$60,300.00	\$60,300.00	\$60,300.00
Part-time - Previous YR Intake (5 courses, 15 credits)		\$35,175.00	\$35,175.00	\$35,175.00

**International Tuition (\$550/cr.)**

Full-time (11 courses, 33 credits)	\$72,600.00	\$108,900.00	\$108,900.00	\$108,900.00
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<b>Tuition</b>	<b>\$370,080.00</b>	<b>\$370,200.00</b>	<b>\$370,200.00</b>	<b>\$370,200.00</b>
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**COSTS****Instructional Cost**

Courses 11 - 33cr. @ \$4,869.79	\$160,703.13	\$160,703.13	\$160,703.13	\$160,703.13
Instructional Materials / Library Materials	\$28,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	<b>\$188,703.13</b>	<b>\$165,703.13</b>	<b>\$165,703.13</b>	<b>\$165,703.13</b>

<b>KPU Overhead On Instructional Cost @</b>	<b>\$75,481.25</b>	<b>\$66,281.25</b>	<b>\$66,281.25</b>	<b>\$66,281.25</b>
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40%

**Operating Costs**

Program Co-ord/ Release 12.5% FTE	\$14,609.38	\$14,609.38	\$14,609.38	\$14,609.38
Dean Office Admin Support	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00
Marketing	\$35,000.00	\$30,000.00	\$25,000.00	\$25,000.00
Intake Orientation	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	<b>\$79,609.38</b>	<b>\$74,609.38</b>	<b>\$69,609.38</b>	<b>\$69,609.38</b>

<b>Program Margin</b>	<b>\$26,286.25</b>	<b>\$63,606.25</b>	<b>\$68,606.25</b>	<b>\$68,606.25</b>
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**Note:** Program Tuition: Full-time domestic student: \$11,055; Full-time international student: \$18,150; Part-time domestic: YR 1- \$6,030, YR 2- \$5,025.

**Student Completion Paths: 2 Intake Model: 1-Fall Term and 1-Spring Intake Per Academic Year Financial Model**

	AC YR 1	AC YR 2	AC YR 3	AC YR 4
<b>Domestic</b>				
Full-Time	40	29	29	29
Part- Time	17	17	17	17
Part-Time - Previous AC YR intake		14	14	14
<b>International</b>				
Full-Time	7	10	10	10
<b>Total Intake</b>	<b>64</b>	<b>70</b>	<b>70</b>	<b>70</b>

**REVENUE**
**Domestic Tuition (\$335/cr.)**

Fall - Full-time Intake (11 courses, 33 credits)	\$221,100.00	\$187,935.00	\$187,935.00	\$187,935.00
Fall - Part-time Intake (6 courses, 18 credits)	\$60,300.00	\$60,300.00	\$60,300.00	\$60,300.00
Spring - Full-time Intake (8 courses, 24 credits)	\$160,800.00	\$96,480.00	\$96,480.00	\$96,480.00
Spring - Part-Time Intake (4 courses, 12 credits)	\$28,140.00	\$28,140.00	\$28,140.00	\$28,140.00
Previous Intakes - Part-time (ave 6 courses, 18 credits)		\$84,420.00	\$84,420.00	\$84,420.00

**International Tuition (\$550/cr.)**

Full-time (11 courses, 33 credits)	\$72,600.00	\$90,750.00	\$90,750.00	\$90,750.00
Full-time (8 courses, 33 credits)	\$39,600.00	\$66,000.00	\$66,000.00	\$66,000.00

**Tuition Revenue**

\$582,540.00	\$614,025.00	\$614,025.00	\$614,025.00
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**COSTS**
**Instructional Cost**

19 Courses (57 cr.) @ \$4,869.79/cr.	\$277,578.13	\$277,578.13	\$277,578.13	\$277,578.13
Instructional Materials / Library Materials	\$28,000.00	\$5,000.00	\$5,000.00	\$5,000.00
	\$305,578.13	\$282,578.13	\$282,578.13	\$282,578.13

**KPU Overhead On Instructional Cost @**

\$122,231.25	\$113,031.25	\$113,031.25	\$113,031.25
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40%

**Operating Costs**

Program Co-ord/ Release 12.5% FTE	\$14,609.38	\$14,609.38	\$14,609.38	\$14,609.38
Dean Office Admin Support	\$25,000.00	\$56,250.00	\$56,250.00	\$56,250.00
Marketing	\$35,000.00	\$30,000.00	\$25,000.00	\$25,000.00
Intake Orientation	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00
	\$84,609.38	\$110,859.38	\$105,859.38	\$105,859.38

**Program Margin**

\$70,121.25	\$107,556.25	\$112,556.25	\$112,556.25
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**Note:** Program Tuition: Full-time domestic student: \$11,055; Full-time international student: \$18,150; Part-time domestic: YR 1- \$6,030, YR 2- \$5,025.

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Signature of Dean submitting concept document	Date
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Signature(s) of Dean(s) providing service courses	Date
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**G.2 Indicate the specific source(s) of funding for development, both internal and external.**

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**G.3 Indicate the specific source(s) of funding for delivery, both internal and external.**

## Appendix A: Internal Consultations

<b>DEPARTMENT</b>		<b>CONTACT</b>
<b>Office of the Provost</b>	<a href="#"><u>Provost and Vice President Academic</u></a>	Review meeting December 14, 2015: Reviewed tuition levels program offerings and delivery structure.
<b>University Registrar</b> (curriculum, university calendar, implementation date, policy)	<a href="#"><u>University Registrar</u></a>	Program development consultation meeting October 6, 2015: Reviewed program offerings, admission requirements and process, delivery structure.
<b>Admissions, Transfer Credit, and Graduation</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Admissions, Graduation and Enrolment Services</u></a>	Program review meeting October 6 and October 22, 2015: Reviewed program offerings, admission requirements and process, delivery structure.  Final recommendations wording adjustments sent and adopted Dec 2015
<b>Registration, Records, Scheduling, Course Curriculum</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Registration, Records and Scheduling</u></a>	Program review meeting October 22, 2015: Reviewed program offerings, admission requirements and process, delivery structure.  Final recommendations on program course acronyms and numbering adopted Dec 2015
<b>Student Awards and Financial Assistance</b> (Office of the Registrar)	<a href="#"><u>Associate Registrar, Student Financial Services</u></a>	Program review meeting October 23, 2015: Reviewed program offerings, admission requirements and process, delivery structure. Final consultation Dec 2015. Discussions about definition of what a full-time programs means in relationship to student loan eligibility. This program is being deemed full-time - 3 terms, 33 credits. Which is different than one other KPU Post Bacc program.
<b>Central Advising</b>	<a href="#"><u>Manager, Academic Advising</u></a>	Program review November 17, 2015 via emails. "I appreciate how we are targeting individuals looking to change their careers or our international students an opportunity to have their credentials recognized beyond what we have been offering."
<b>Co-operative Education</b>	<a href="#"><u>Director, Co-op and Career Services</u></a>	Program review meeting October 23, 2015: Reviewed program offerings, admission requirements and process, delivery structure. Final recommendations wording adjustments sent and adopted Dec 2015
<b>Library Services</b> (collections, AV needs, etc)		Meet with Linda Rogers, reviewed program requirements, cost recovery structure of program to ensure funding would be available for new resources in the future. Recommendations made on management of resources for the program. All current business resources in place will support the program.
<b>International Education Office</b>	<b>Director, Admissions</b>	Program consultation meetings; request work experience option = inclusion of co-op option for fall intakes.
<b>School of Business</b>	<b>Faculty Council</b> <b>Curriculum Committee</b>	Faculty Council - Approved December 18, 2015  Curriculum Committee – Endorsed, December 4, 2015

## **Appendix B – Program Viability Report**

See separated **IAP Viability Report: December 10, 2015**

## **Appendix C – Library Assessment Template**

No submission: Brief review meeting held.

## Appendix D – Development & Implementation Timetable

Program Concept Development	September 2015 – April 2016	KPU approvals, Ministry posting period
Course and Curriculum Development	January 2015 – April 2016	Course Outline development
	May 2016 – November 2016	Course content development
Operation Development	March 2016 – May 2016	Admission process development
	May 2016 – September 2016	Cohort intake process development
	November 2016 - January 2017	First intake coordination
Marketing and Recruitment	March 2016 – May 2016	Planning and development
	May 2016 – onwards	Recruitment and Marketing execution

## **Appendix E: Proposed Curriculum Framework**

### **Program Overview and Learning Outcomes**

The Post Degree: Technical Management and Services (“TMAS”) program is designed for a participant base that has completed bachelor degree in engineering or a technical program in applied sciences or information technology.

Whether the participants have industry experience or are starting their career in industry the program is designed to prepare the participant to successfully address supervisory and managerial needs in a technological environment. The technical manager's role is viewed as the link between business management and technical expertise, and involves matching resources in uncoordinated areas, working through people and making and implementing management decisions, while simultaneously formulating technical strategies.

This program combines the concepts of management and business administration within the context of managing in a technical product development, technical services such as engineering, information technology, or operations and manufacturing business environment. The TMAS program consists of five (15 credits) general management courses that will allow students to develop business-related critical thinking and analysis skills, communication skills, teamwork and interpersonal skills, and attain a solid understanding of how to interpret and synthesize core business, financial and performance data to make informed decisions in a technical business environment. Following this, students complete six (18 credits) courses of focused TMAS content.

The six TMAS courses develop students’ ability to apply best-in-practice processes and tools to a wide range of business and management issues and opportunities to support informed decision making in technical business situations / environments. TMAS Content Learning Outcomes: Graduates will be able to:

1. Demonstrate the ability to develop a technology plan or technical services plan (or program) that aligns with the overall business plan
2. Exercise their responsibilities in the management of cost-effective systems, product development, or technical services by leading and participating in interdisciplinary teams.
3. Apply their in-depth knowledge of leading a diverse technical team in analysis, administration, and project management within any technical industry.
4. Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability.
5. Analyze the performance of their organization (financial, products, services, practices and systems) to identify the ways to improve the performance of organizations and help them meet marketplace needs.

With completion of the TMAS program students will have also attained a strong applied management knowledge base, able to demonstrate their ability in applying business and management processes, tools and strategies as part of seeking or maintaining (via professional development credits) their professional accreditation or designation.

### **Program and Course Delivery Structure**

Virtually all of the TMAS courses require students to complete applied business or management projects (research or case based or direct industry) of a technical nature as an outcome of the course. The developers of the program believe a key differentiator of the program will be to provide students with as many opportunities as possible to gain real-world experience in applying the skills they learn. In addition, TMAS applied project course is a comprehensive project that provides students with an opportunity to integrate the knowledge and skill sets of the program and apply them in a workplace setting.

As one of the target markets for this program is working professionals, the program will be delivered through Friday and Saturday classes that will be delivered in-class, blended (in-class/on-line) and compressed (6 week).

## Curriculum

### Full-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3 (completion term)
Accounting and Financial Management for Managers – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.	Project Management – 3 Cr.
Managing Dynamic Teams – 3 Cr.	Business Planning and Performance for Technical Businesses– 3 Cr.	Sustainable Operations – 3 Cr.
Quantitative Methods for Business Management – 3 Cr.	Consulting and Client Management Practices – 3 Cr.	New Product and Services Development – 3 Cr.
Business Law for Technical Management and Services – 3 Cr.	Managing Technical Business Growth – 3 Cr.	

### Part-time Cohort Path

Term 1 (entrance term)	Term 2	Term 3
Accounting and Financial Management for Managers – 3 Cr.	Business Planning and Performance for Technical Businesses– 3 Cr.	Managing Technical Business Growth – 3 Cr.
Quantitative Methods for Business Management – 3 Cr.	Consulting and Client Management Practices – 3 Cr.	Sustainable Operations – 3 Cr.
Term 4	Term 5	Term 6 (completion term)
Managing Dynamic Teams – 3 Cr.	Project Management – 3 Cr.	New Product and Services Development – 3 Cr.
Business Law for Technical Management and Services – 3 Cr.	Negotiations and Stakeholder Communications – 3 Cr.	

## Course Descriptions

### Core Management Courses

- **BUSM 5100 Accounting and Financial Management for Managers – 3 Credits** - An intensive course on accounting principles and practices as related to financial and managerial accounting. The course facilitates the student's ability to synthesize accounting and financial information in the decision-making of business managers – for example relevant costs, cost-profit-volume and break-even analysis, budgeting and cash flow management, working capital decisions etc.
- **BUSM 5110 Managing Dynamic Teams – 3 Credits** - This course will cover the skills needed to build, lead and motivate high-performance teams as a leader. It is intended to provide both a conceptual understanding, as well as experiential learning opportunities in the following areas: initial stages of team development (team climate, structure, goal setting), examining issues of power and control in team functioning (surfacing issues/concerns and managing conflict, dealing with unproductive participant behaviour, facilitating team problem solving and decision making, evaluating team performance and individual contributions, providing feedback on team behaviour). Working on virtual teams is an emerging challenge for many leaders and methods for working in these environments will be discussed.

- **BUSM 5120 Project Management – 3 Credits** – Students will learn the key concepts, tools and techniques that combine both the tactical and strategic approaches to project management. Emphasis will be focused on the larger context of contemporary project management, which includes the imperatives of ethics and social responsibility, and the reality of globalization.
- **BUSM 5130 Quantitative Methods for Business Management – 3 Credits** - This course teaches best practice quantitative methods used in both conventional and sustainable business settings today. The data management and modeling functions in which these tools are used exist in most mainstream business functions, e.g., marketing, operations management, finance, accounting, long term strategy and managerial economics.
- **BUSM 5140 Negotiations and Stakeholder Communications – 3 Credits** - This course will help you become a more effective communicator and decision-maker, learning proven techniques for building and maintaining relationships, applying appropriate power and influence, structuring agreements, and developing buy-in. This course examines core decision-making challenges and provides strategies and techniques to effectively engage your colleagues, staff, partners, customers, and clients in collaborative decision-making and negotiations.

#### **Core Technical Management and Services Courses**

- **TMAS 5100 Business Planning and Performance for Technical Businesses– 3 Cr.** - The objective of this course is to introduce the concepts, issues, and themes related to analyzing business performance, business planning, strategy, and entrepreneurship. Students will develop their ability to analyze business performance, develop business plans that align with the organizations strategic management principles. Various stages of technology and/or technical driven enterprises will be explored. Students will be encouraged to combine and apply their creativity and technical skills to develop a business strategy and plans for a technology or technical service based ideas.
- **TMAS 5110 Managing Technical Business Growth – 3 Credits** - This course reviews challenges in the management of technology, engineering and technical services organizations as the business grows and develops. Topics include management of change; managing project/technical leaders; developing and implementing new infrastructure (systems, processes, policies, practices) required to support organizational growth. Students assume the roles of senior technical managers dealing with typical problems in a department, including applied research, product development, and engineering and technical service support, in an environment of rapid change and growth.
- **TMAS 5120 Business Law for Technical Management and Services – 3 Credits** – This course addresses legal issues commonly encountered by technical professionals, best practices in identifying and mitigating legal risks, as well as strategies to avoid costly legal errors and to recognize when professional legal advice is necessary. The course will acquaint students with various areas of the law that can interact to affect a single business transaction and will provide students with legal reasoning skills that can be applied in a technical business environment. Topics include the legal environment of business, contract basics, effective contract negotiations, breach of contract; remedies, intellectual property rights, licensing; technology transfer, protecting confidential & proprietary business information, employment law, corporate policies and business ethics.
- **TMAS 5130 Consulting and Client Management Practices – 3 Credits** - Using a practical approach, this course covers the fundamental knowledge, methodologies, tools, techniques, and standards required for the professional consultant, the five stages of the consulting process, as well as working as part of a consulting team. The course will allow students to develop an understanding of the skills and practices required to be effective in working with external and internal clients, in particular the specific consulting skills to manage client interaction and engagement.

- **TMAS 5140 Sustainable Operations – 3 Credits** – The course views business operations through the lens of a manager responsible for managing a complex enterprise. In this course, students will learn to: 1) Define and analyze a value chain, relating it to product life-cycle; 2) Develop and integrate sustainability initiatives at each step of the value chain, from product design through manufacturing and waste disposal; 3) Identify risks in an operating environment and define risk reduction measures; 4) Measure and account for sustainability initiatives as a means for driving their success; and 5) Structure strategies for organizational buy-in and change management. Students will be challenged to think about issues at two levels: The technical/operating level and the strategic/ enterprise level. Throughout, the course will address real world situations where elements of the triple bottom line conflict, and where decision-makers must make difficult and time-sensitive decisions with incomplete information.
- **TMAS 5150 New Product and Services Development – 3 Credits** - New products and services are vital to all companies. In particular, the course covers the new product and services development process, the tools and techniques associated with launching them. This course provides quantitative and qualitative approaches for analyzing market opportunities to as well as designing, testing, and introducing new products and services. It emphasizes how to lead the organization in the process, incorporate consumers, customers and competitors into all of these aspects of new product and service development. This is the program capstone course.

**Program Delivery Map – 1- Term Intake Model - Full-time and Part-time**

Course	Term 1		Term 2		Term 3	
	Thursday	Saturday	Thursday	Saturday	Thursday	Saturday
Accounting and Financial Management for Managers – 3 Cr.	In-class 3hrs – 7-10pm PT Path Course Yr-1					
Managing Dynamic Teams – 3 Cr.		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2				
Quantitative Methods for Business Management – 3 Cr.		Blended – When in Class 8:30-11:30am PT Path Course Yr-1				
Business Law for Technical Management and Services – 3 Cr.		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2				
Business Planning and Performance for Technical Businesses– 3 Cr.			In-class 3hrs – 7-10pm PT Path Course Yr-1			
Negotiations and Stakeholder Communications – 3 Cr.				In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		
Consulting and Client Management Practices – 3 Cr.				In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-1		
Managing Technical Business Growth – 3 Cr.				Blended – When in Class 8:30-11:30am PT Path Course Yr-2		
Project Management – 3 Cr.						In-class 8:30-11:30am PT Path Course Yr-1
Sustainable Operations – 3 Cr.						In-class 12pm-3pm PT Path Course Yr-1
New Product and Services Development – 3 Cr.					In-class 8:30-11:30am PT Path Course Yr-2	

**Program Delivery Map – 2 Intake Model: Term 1 and Term 2 Intake - Full-time and Part-time**

Course	Term 1 (Fall)		Term 2 (Spring)		Term 3 (Summer)	
	Thursday	Saturday	Thursday	Saturday	Thursday	Saturday
<b>Accounting and Financial Management for Managers – 3 Cr.</b>	In-class 3hrs – 7-10pm PT Path Course Yr-1		In-class 3hrs – 7-10pm PT Path Course Yr-1			
<b>Managing Dynamic Teams – 3 Cr.</b>		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		
<b>Quantitative Methods for Business Management – 3 Cr.</b>		Blended – When in Class 8:30-11:30am PT Path Course Yr-1		Blended – When in Class 8:30-11:30am PT Path Course Yr-1		
<b>Business Law for Technical Management and Services – 3 Cr.</b>		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		
<b>Business Planning and Performance for Technical Businesses– 3 Cr.</b>			In-class 3hrs – 7-10pm PT Path Course Yr-1		In-class 3hrs – 7-10pm PT Path Course Yr-1	
<b>Negotiations and Stakeholder Communications – 3 Cr.</b>				In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-2
<b>Consulting and Client Management Practices – 3 Cr.</b>				In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-1		In-class Compressed 12-6pm (6 weeks) PT Path Course Yr-1
<b>Managing Technical Business Growth – 3 Cr.</b>				Blended – When in Class 8:30-11:30am PT Path Course Yr-2		Blended – When in Class 8:30-11:30am PT Path Course Yr-2
<b>Project Management – 3 Cr.</b>		In-class 8:30-11:30am PT Path Course Yr-1				In-class 8:30-11:30am PT Path Course Yr-1
<b>Sustainable Operations – 3 Cr.</b>		In-class 12pm-3pm PT Path Course Yr-1				In-class 12pm-3pm PT Path Course Yr-1
<b>New Product and Services Development – 3 Cr.</b>	In-class 8:30-11:30am PT Path Course Yr-2				In-class 8:30-11:30am PT Path Course Yr-2	

## Appendix F: Position Profile of Related Occupations

Position profiles compiled from Human Resources and Services Department Canada: <http://www5.hrsdc.gc.ca/>

**Engineering managers (NOC 0211)** perform some or all of the following duties:

- Plan, organize, direct, control and evaluate the activities and operations of an engineering department, service or firm
- Develop and implement policies, standards and procedures for the engineering and technical work performed in the department, service, laboratory or firm
- Consult and negotiate with clients to prepare specifications, explain proposals and present engineering reports and findings
- Assign, co-ordinate and review the technical work of the department or project teams
- Recruit personnel and oversee development and maintenance of staff competence in required areas
- May participate directly in the design, development and inspection of technical projects or in the engineering work of the department.

**Architecture and science managers (NOC 0213)** perform some or all of the following duties:

- Plan, organize, direct, control and evaluate the activities and operations of an architecture, landscape architecture, scientific research and development laboratory or quality control department, service or firm
- Develop and implement policies, standards and procedures for the architectural, scientific and technical work performed in the department, service, laboratory or firm
- Assign, co-ordinate and review the technical work of the department or project teams
- Recruit personnel and oversee development and maintenance of staff competence in required areas
- May participate directly in the design, development and inspection of technical projects or in the theoretical or applied scientific work of the department
- May consult and negotiate with clients to prepare specifications, explain proposals or present architectural or scientific research reports and findings.

**Computer and information systems managers (NOC 0212)** perform some or all of the following duties:

- Plan, organize, direct, control and evaluate the operations of information systems and electronic data processing (EDP) departments and companies
- Develop and implement policies and procedures for electronic data processing and computer systems development and operations
- Meet with clients to discuss system requirements, specifications, costs and timelines
- Assemble and manage teams of information systems personnel to design, develop, implement, operate and administer computer and telecommunications software, networks and information systems
- Control the budget and expenditures of the department, company or project
- Recruit and supervise computer analysts, engineers, programmers, technicians and other personnel and oversee their professional development and training.

**Senior managers in construction, transportation, utilities and production (NOC 0016)** in this group perform some or all of the following duties:

- Set goals for the company and create or approve policies and programs
- Approve and organize the creation of major departments and associated senior staff positions
- Assign material, human and financial resources to set up company policies and programs; establish financial and administrative controls
- Represent the company, or assign representatives to act on behalf of the company, in negotiations or other official functions

**Construction managers (NOC 0711)** perform some of all of the following duties:

- Plan, organize, direct, control and evaluate construction projects from start to finish according to schedule, specifications and budget
- Prepare and submit construction project budget estimates
- Plan and prepare construction schedules and milestones and monitor progress against established schedules
- Prepare contracts and negotiate revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors
- Develop and implement quality control programs
- Represent their company on matters such as business services and union contracts negotiation
- Prepare progress reports and issue progress schedules to clients
- Direct the purchase of building materials and land acquisitions
- Hire and supervise the activities of subcontractors and subordinate staff

**Utilities managers (NOC 0912)** main duties for some occupations in this unit group:

- Water supply managers manage water filtration, purification processes and pumping operations, schedule and oversee the maintenance of plant equipment and prepare reports on water supply and water quality.
- Electrical power distribution managers manage the operations of electrical power distribution systems including generating stations, transmission stations and distribution networks. They may also plan and direct the distribution activities of a municipal electrical power establishment.
- Natural gas supply managers manage the delivery of gas to consumers, monitor supply inventories and control the recording of injections and withdrawals.
- Petroleum product distribution managers plan and direct the distribution of heating oil products to retail distributors and regional storage sites.
- Water pollution control managers manage the operations of a sewage treatment plant, schedule and direct maintenance of plant equipment, and prepare reports on water quality.
- Waste systems managers manage solid or liquid waste collection and disposal systems, train drivers in how to handle waste and ensure safe operation of disposal facilities.

**Managers in natural resources production and fishing (NOC 0811)** perform some or all of the following duties:

- Oversee and analyze operations in forestry, logging, mining, quarrying, or oil and gas operations or in services to logging, mining and oil and gas industries, or in commercial fishing
- Recommend operational changes to senior management when necessary to ensure that production quotas and procedures are met
- Prepare production reports for review by senior management
- Confer with other managers to set production quotas, to plan extraction sites and to develop policies for the removal of raw materials
- Evaluate efficiency of production sites to determine adequacy of personnel, equipment and technologies used, and make changes to work schedule or equipment when necessary
- Ensure adherence to safety regulations
- Hire personnel and oversee training needs of staff
- May direct peripheral activities such as the construction of access roads or temporary living quarters.

# Feasibility Assessment for the Proposed Technical Management and Services Post-Baccalaureate Diploma

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Prepared by the Office of Institutional Analysis & Planning  
Kwantlen Polytechnic University  
December 10, 2015

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# 1. Summary of Assessment

The purpose of this report is to assess the labour market need, competitive environment, and student demand for the proposed Technical Management and Services Post-Baccalaureate Diploma program. Conclusions provided at the end of each chapter are duplicated below.

## Description of KPU's Proposed Program

The proposed Technical Management and Services Post-Baccalaureate Diploma program is designed for individuals who have completed a Bachelor degree or individuals with a diploma and significant industry experience. As the program may be taken full-time (completed in 12 months) or part-time (completed in 24 months), the program is suitable for new degree graduates or working professionals.

The proposed program will provide technical graduates/professionals with the skills to manage and lead from a business perspective, within a technical-based business (such as engineering, IT, applied science businesses). More specifically, the program will prepare graduates to:

- Demonstrate the ability to develop a technology plan or technical services plan (or program) that aligns with the overall business plan.
- Exercise their responsibilities in the management of cost-effective systems, product development, or technical services by leading and participating in interdisciplinary teams.
- Apply their in-depth knowledge of leading a diverse technical team in analysis, administration, and project management within any technical industry.
- Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability.
- Analyze the performance of their organization (financial, products, services, practices and systems) to identify the ways to improve the performance of organizations and help them meet marketplace needs.

## Labour Market Demand Assessment

B.C.'s *Skills for Jobs Blueprint* is government's plan to adjust education and training to target more programs that align with the high opportunity occupations<sup>1</sup> expected by 2024. KPU's proposed program aligns with three of the top 100 high-opportunity occupations that have been identified:

- NOC 0211 - Engineering managers
- NOC 0213 - Computer and information systems managers
- NOC 0711 - Construction managers

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<sup>1</sup> To determine where demand for labour will be greatest, a number of factors influencing current and future market conditions were examined, including unemployment rates and employment growth, to identify the 100 high-opportunity occupations.

In addition to employment opportunities in the three high-priority occupations listed above, the program will prepare graduates for the following occupational categories:

- NOC 0212 - Architecture and science managers
- NOC 0912 - Utilities managers
- NOC 0811 - Managers in natural resources production and fishing

A total of 14,390 job openings within the six occupational groups are expected to be created between 2015 and 2024 in BC (of which 9,595 openings are expected in the Mainland/Southwest region). The three opportunity occupations related to KPU's proposed program account for 82% of the 14,390 job openings in BC (11,860 jobs) and 86% of the 9,595 job openings in the Mainland/Southwest region (8,205 jobs). Over a ten-year period to 2024, demand for workers is expected to increase, in both BC and the Mainland/Southwest region, for all of the six occupational groups above.

Overall, the information suggests graduates from KPU's proposed Technical Management and Services Post-Baccalaureate Diploma program will have very good employment prospects upon graduation.

## Competitive Assessment

Three public postsecondary institutions in BC offer five programs focused on providing technical professionals or graduates with a technical background, with management skills. Of the programs offered by the three institutions, four programs (from BCIT and TRU-OL) lead to a Bachelor credential and one program (from SFU) leads to a Master's credential. A comprehensive internet search did not identify any related post-baccalaureate diploma programs.

*Technology professionals with a degree* are most likely to choose either SFU's Management of Technology Master's program or KPU's proposed Post-Baccalaureate Diploma program. The length of the two programs are the same (24 months, part-time). SFU's program will cost domestic students \$35,000 and cost international students \$43,500. The proposed tuition for KPU's program<sup>2</sup> -- between \$10,000-\$11,100 for domestic students and \$18,150 for international students -- is much more affordable for students.

*New degree graduates without relevant work experience* would not be admitted into SFU's Management of Technology program. Thus, KPU's proposed Post-Baccalaureate Diploma program would serve them. KPU's proposed program could be completed in 12 months, full-time which may be attractive to new graduates. (A comprehensive internet search did not identify any other related post-baccalaureate diploma programs offered in the province).

*Working professionals without a degree* could either pursue a Bachelor's degree (there are four related degree programs from BCIT and TRU-OL) or KPU's proposed Post-Baccalaureate Diploma program in Technical Management and Services. KPU's proposed program (33 credits)

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<sup>2</sup> To be confirmed.

can be completed in the shortest amount of time which will be appealing to some working professionals. However, others may choose to work towards a degree – Three of the four degree programs offered are approximately 60 credits in length and one program is 120 credits. The cost of the 60 credit degree programs for domestic students are estimated to be around \$11,000, similar to the proposed tuition for KPU's program (between \$10,000 and \$11,100). The domestic tuition of the 120-credit degree program is about double the cost (\$21,130). Estimated international tuition rate for the four degree programs ranges from \$25,300-\$42,720. The international tuition for KPU's proposed program would be the lowest at \$18,150.

## **Student Demand Assessment**

Technical degree graduates from KPU's School of Business (such as IT) and the Faculty of Science and Horticulture (such as applied sciences) are a likely target audience for the Post-Baccalaureate Diploma in Technical Management and Services. Graduates of those programs may want to return to KPU, where they completed their degree, to obtain their post-baccalaureate credential. Enrolments in KPU's Bachelor of Technology in Information Technology program have steadily increased over the past five academic years, from 83 in 2010/11 to 320 in 2014/15. Enrolments in Bachelor degree programs from the Faculty of Science and Horticulture have also increased over a five-year period, reaching about 65<sup>3</sup> in 2014/15.

Full Time Equivalent (FTE) enrolments for related programs offered at other public postsecondary institutions exhibit an upward trend, increasing from 223 in 2010/11 to 250 in 2014/15.

In addition, as mentioned in the previous section, labour market demand is expected to be high in related occupational categories. This indicates an increasing need for employees with the skills KPU's proposed program is designed to provide, which should also contribute to positive demand for the program.

Overall, the data examined suggests there will be good demand for KPU's proposed Technical Management and Services Post-Baccalaureate Diploma program.

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<sup>3</sup> A student may be counted across more than one program.

## 2. Labour Market Demand

This section provides an informed view of the labour market trends in BC for occupations related to the Technical Management and Services Post-Baccalaureate Diploma program.

Graduates of the Technical Management and Services Post-Baccalaureate Diploma program will be employable in both the public and private sector, within a large variety of industries. Potential jobs titles include<sup>4</sup>:

- Account Leader
- Business Manager
- Consultant
- Contractor (self-employed)
- Field Manager, Repair Services
- Management Information Systems Director
- Manager, Construction Services
- Manager, IT Support Services
- Manager, Research & Development
- Manager, Engineering Services
- Operations Manager
- Plant Manager
- Project Manager
- Strategic Planning Director
- Technical Product Manager

The above list is not exhaustive and some of the occupations may require additional education and/or training.

### Employment Outlook<sup>5</sup>

The Canadian labour force is aging rapidly with the result that skill shortages due to replacement demand are expected in all sectors of the Canadian economy. Between 2015 and 2024, 935,000 job openings are expected to be created in BC; 68% of these will be to replace retiring workers. Replacement demand will be important in every major occupational group in BC. Over this time period, market growth is expected to be driven by various industries, reflecting a robust and diverse economy. More than three quarters of job openings projected to 2024 will require some post-secondary education and training. Over a third (36%) of job openings will require a university degree and/or significant work experience.

About half of total projected job openings over the 10 year outlook period are expected to be in three occupational groups: sales and service occupations, business, finance and administration occupations, and management occupations.

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<sup>4</sup> Sources include: <http://www.bcit.ca/study/programs/8350btech#graduating>, [http://beedie.sfu.ca/files/PDF/brochures/SFU\\_MOTbrochure.pdf](http://beedie.sfu.ca/files/PDF/brochures/SFU_MOTbrochure.pdf), <http://www.gradschoolhub.com/faqs/what-jobs-are-available-with-a-masters-in-technology-management/>, and <http://www.utm.utoronto.ca/mmi/mmi-your-masters-degree-12-months>, and Program Proposal Feasibility Request Form for the proposed Post-Baccalaureate Diploma program in Technical Management and Services.

<sup>5</sup> See Appendix C for information on labour market sources and the terminology used in this section.

## ***Occupational Groups Related to Technical Management and Services***

With respect to the proposed Technical Management and Services Post Baccalaureate Diploma program, there are six occupational categories that are the most relevant:

- NOC 0211 - Engineering Managers
- NOC 0213 - Computer and information systems managers
- NOC 0711 - Construction managers
- NOC 0912 - Utilities managers
- NOC 0811 - Managers in natural resources production and fishing
- NOC 0212 - Architecture and science managers

Information about the employment outlook for these six occupational categories is summarized below.

### ***NOC 0211 - Engineering Managers***

*“Engineering managers plan, organize, direct, control and evaluate the activities of an engineering department, service or firm. They are employed by a wide range of private sector and government establishments and by consulting engineering and scientific research companies.”<sup>6</sup>*

Job titles specific to this subgroup include engineering manager, engineering service project manager, and engineering department manager.

The employment outlook for this category follows<sup>7</sup>:

- Approximately 1,150 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.5%.
  - Of these job openings, 73% will be due to replacement demand as a result of retiring workers and deaths, and 27% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 970 job openings are projected by 2024. This represents an annual demand growth rate of 1.5%.
  - Of these job openings, 72% will be due to replacement demand and 28% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>8</sup>:

- Of the individuals employed in this area in 2011, 90% were male and 74% were working mostly full-time.
- 53% of the workforce was between the ages 45 and 64 and 40% was between 25 and 44.

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<sup>6</sup> Human Resources and Skills Development Canada and Statistics Canada: National Occupational Classification 2011

<sup>7</sup> Source: Labour Market Outlook Data Catalogue.

<sup>8</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0211> (November 2015).

- The provincial average salary for occupations that fall under this occupational group was \$125,000 in 2011.

### **NOC 0213 - Computer and information systems managers**

*“Computer and information systems managers plan, organize, and direct the activities of organizations that design, develop, and manage computer and telecommunications software, networks, and information systems. They are employed throughout the public and private sectors.”*

Job titles specific to this subgroup include software engineering manager, information systems manager, software development manager, and systems development manager.

The employment outlook for this category follows<sup>9</sup>:

- Approximately 3,470 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.4%.
  - Of these job openings, 65% will be due to replacement demand as a result of retiring workers and deaths, and 35% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 2,865 job openings are projected by 2024. This represents an annual demand growth rate of 1.5%.
  - Of these job openings, 63% will be due to replacement demand and 37% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>10</sup>:

- Of the individuals employed in this area in 2011, 83% were male and 76% were working mostly full-time.
- 42% of the workforce was between the ages 45 and 64 and 56% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$95,000 and \$125,000 in 2011.

### **NOC 0711 - Construction managers**

*“Construction managers plan, organize, direct, control, and evaluate the activities of a construction company or a construction department within a company, under the direction of a general manager or other senior managers. They are employed by residential, commercial, and industrial construction companies and by construction departments of companies outside the construction industry.”*

Job titles specific to this subgroup include project manager, commercial construction manager, residential construction manager, and industrial construction manager.

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<sup>9</sup> Source: Labour Market Outlook Data Catalogue.

<sup>10</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0213> (November 2015).

The employment outlook for this category follows<sup>11</sup>:

- Approximately 7,240 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.0%.
  - Of these job openings, 78% will be due to replacement demand as a result of retiring workers and deaths, and 22% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 4,370 job openings are projected by 2024. This represents an annual demand growth rate of 0.7%.
  - Of these job openings, 84% will be due to replacement demand and 16% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>12</sup>:

- Of the individuals employed in this area in 2011, 90% were male and 64% were working mostly full-time.
- 48% of the workforce was between the ages 45 and 64 and 46% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$95,000 and \$125,000 in 2011.

### **NOC 0912 - Utilities managers**

*“Utilities managers plan, organize, direct, control, and evaluate the operations of utility companies or services of heating fuel distribution companies. The services provided include treatment of water and waste, distribution of water, electricity, natural gas, and heating oil to residential, commercial and industrial consumers, waste disposal, and waste recycling. Utilities managers are employed in public and private sector utilities and in heating fuel distribution companies.”*

Job titles specific to this subgroup include water filtration plant manager, pipelines operations, and liquid waste facility manager.

The employment outlook for this category follows<sup>13</sup>:

- Approximately 910 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 0.8%.
  - Of these job openings, 84% will be due to replacement demand as a result of retiring workers and deaths, and 16% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 590 job openings are projected by 2024. This represents an annual demand growth rate of 0.6%.
  - Of these job openings, 86% will be due to replacement demand and 14% will be due to new jobs that result from economic growth.

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<sup>11</sup> Source: Labour Market Outlook Data Catalogue.

<sup>12</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0711> (November 2015).

<sup>13</sup> Source: Labour Market Outlook Data Catalogue.

Some employment characteristics of the sub-group follow<sup>14</sup>:

- Of the individuals employed in this area in 2011, 81% were male and 80% were working mostly full-time.
- 55% of the workforce was between the ages 45 and 64 and 44% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$95,000 and \$125,000 in 2011.

### ***NOC 0811 - Managers in natural resources production and fishing***

*“This unit group includes managers who plan, organize, direct, control, and evaluate the operations of establishments in forestry and logging, mining and quarrying, oil and gas drilling, production and servicing operations, and commercial fishing.”*

Job titles specific to this subgroup include mining operations manager, production manager, and oil well servicing manager.

The employment outlook for this category follows<sup>15</sup>:

- Approximately 1,180 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 0.1%.
  - Of these job openings, 97% will be due to replacement demand as a result of retiring workers and deaths, and 3% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 410 job openings are projected by 2024. This represents an annual demand growth rate of 0.8%.
  - Of these job openings, 82% will be due to replacement demand and 18% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>16</sup>:

- Of the individuals employed in this area in 2011, 89% were male and 65% were working mostly full-time.
- 60% of the workforce was between the ages 45 and 64 and 35% was between 25 and 44.

The provincial average salary for occupations that fall under this occupational group was between \$95,000 and \$125,000 in 2011.

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<sup>14</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0912> (November 2015).

<sup>15</sup> Source: Labour Market Outlook Data Catalogue.

<sup>16</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0811> (November 2015).

## **NOC 0212 - Architecture and science managers**

*“Architecture and science managers plan, organize, direct, control, and evaluate the activities of an architecture, landscape architecture, scientific or statistical department, service or firm. They are employed by a wide range of private sector and government establishments as well as by architectural firms and scientific research companies.”*

Job titles specific to this subgroup include manager, architectural service, director of research, and environmental science manager.

The employment outlook for this category follows<sup>17</sup>:

- Approximately 440 job openings are forecasted between 2015 and 2024 in BC for occupations that fall in this category. This represents an annual demand growth rate of 1.8%.
  - Of these job openings, 72% will be due to replacement demand as a result of retiring workers and deaths, and 28% will be due to new jobs that result from economic growth.
- For the Mainland/Southwest region of BC, 390 job openings are projected by 2024. This represents an annual demand growth rate of 1.9%.
  - Of these job openings, 69% will be due to replacement demand and 31% will be due to new jobs that result from economic growth.

Some employment characteristics of the sub-group follow<sup>18</sup>:

- Of the individuals employed in this area in 2011, 62% were male and 77% were working mostly full-time.
- 46% of the workforce was between the ages 45 and 64 and 51% was between 25 and 44.
- The provincial average salary for occupations that fall under this occupational group was between \$66,000 and \$95,000 in 2011.

## **Labour Market Demand Assessment**

B.C.'s *Skills for Jobs Blueprint* is government's plan to adjust education and training to target more programs that align with the high opportunity occupations<sup>19</sup> expected by 2024. KPU's proposed program aligns with three of the top 100 high-opportunity occupations that have been identified:

- NOC 0211 - Engineering managers
- NOC 0213 - Computer and information systems managers
- NOC 0711 - Construction managers

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<sup>17</sup> Source: Labour Market Outlook Data Catalogue.

<sup>18</sup> 2011 data are the most recent statistics available. WorkBC, Career Profiles. <https://www.workbc.ca/Job-Seekers/Career-Profiles/0212> (November 2015).

<sup>19</sup> To determine where demand for labour will be greatest, a number of factors influencing current and future market conditions were examined, including unemployment rates and employment growth, to identify the 100 high-opportunity occupations.

In addition to employment opportunities in the three high-priority occupations listed above, the program will prepare graduates for the following occupational categories:

- NOC 0212 - Architecture and science managers
- NOC 0912 - Utilities managers
- NOC 0811 - Managers in natural resources production and fishing

A total of 14,390 job openings within the six occupational groups are expected to be created between 2015 and 2024 in BC (of which 9,595 openings are expected in the Mainland/Southwest region). The three opportunity occupations related to KPU's proposed program account for 82% of the 14,390 job openings in BC (11,860 jobs) and 86% of the 9,595 job openings in the Mainland/Southwest region (8,205 jobs). Over a ten-year period to 2024, demand for workers is expected to increase, in both BC and the Mainland/Southwest region, for all of the five occupational groups above.

Overall, the information suggests graduates from KPU's proposed Technical Management and Services Post-Baccalaureate Diploma program will have very good employment prospects upon graduation.

### **3. Competitive Environment**

The main purpose of this section is to identify the public postsecondary education institutions in British Columbia that offer similar programs to the proposed Technical Management and Services Post Baccalaureate Diploma program. This section also describes KPU's proposed program to provide context for the competitive assessment.

#### **Description of KPU's Proposed Program**

The proposed Technical Management and Services Post-Baccalaureate Diploma program is designed for individuals who have completed a Bachelor degree or individuals with a diploma and significant industry experience. As the program may be taken full-time (completed in 12 months) or part-time (completed in 24 months, the program is suitable for new degree graduates or working professionals.

The proposed program will provide technical graduates/professionals the skills to manage and lead from a business perspective, within a technical-based business (such as engineering, IT, applied science businesses). More specifically, the program will prepare graduates to:

- Demonstrate the ability to develop a technology plan or technical services plan (or program) that aligns with the overall business plan.
- Exercise their responsibilities in the management of cost-effective systems, product development, or technical services by leading and participating in interdisciplinary teams.
- Apply their in-depth knowledge of leading a diverse technical team in analysis, administration, and project management within any technical industry.
- Apply an ethical understanding and perspective to business situations both locally and globally, and apply the newest theoretical and practical approaches with respect to social responsibility and sustainability.
- Analyze the performance of their organization (financial, products, services, practices and systems) to identify the ways to improve the performance of organizations and help them meet marketplace needs.

The majority of the courses within the proposed program require students to complete applied business or management projects (research or case based or direct industry) of a technical nature.

#### **Related Programs at BC Public Postsecondary Institutions**

Exhibit 1.1, on the next page, provides a list of related programs offered by BC public postsecondary institutions. Three institutions offer programs focused on providing technical professionals/graduates with a technical background with management skills. One institution (SFU) offers a Master's program, the other institutions (BCIT and TRU) offer programs leading to a Bachelor degree. A comprehensive internet search did not identify any Post-Baccalaureate

Diploma programs. The cost of programs range from \$11,100 to \$35,000 for domestic students and \$22,428-\$43,500 for international students.

**Exhibit 1.1: Related Programs at BC Public Postsecondary Institutions**

Institution	Credential	Length of Program	Estimate Cost of Program	Program Name
BCIT	Bachelor	3-5 years part-time (64 credits)	Domestic: \$11,500 <sup>1</sup> International: \$25,300 <sup>2</sup>	Technology Management
BCIT	Bachelor	2-3 years full-time  3-5 years part-time (61.5 credits)	Domestic: \$13,710 <sup>1</sup> International: \$30,160 <sup>2</sup>	Construction Management
Simon Fraser University	Master's	24 months, part-time	Domestic: \$35,000 <sup>3</sup> International: \$43,500 <sup>3</sup>	Management of Technology
Thompson Rivers University (Open-Learning)	Bachelor	Flexible scheduling (63 credits)	Domestic: \$11,100 International: \$22,428 (\$356 per credit)	Technology
Thompson Rivers University (Open-Learning)	Bachelor	Flexible scheduling (120 credits)	Domestic: \$21,130 International: \$42,720	Trades and Technology Leadership

Source: Institutional Websites (December 2015)

<sup>1</sup> Estimated. Program costs will vary, depending on students' selection of courses to meet requirements.

<sup>2</sup> International tuition fees for part-time studies courses are 2.2 times the published domestic rate.

International tuition fees for distance & online learning courses are 1.25 times the published domestic rate.

Source: <http://www.bcit.ca/international/programs/fees.shtml> (December 2015).

<sup>3</sup> Subject to approval.

<sup>4</sup> Estimated based on per credit costs of Bachelor of Technology program. Source:

[https://banssbprod.tru.ca/banprod/bwyfaapx.p\\_select\\_expense](https://banssbprod.tru.ca/banprod/bwyfaapx.p_select_expense) (December 2015).

An overview of each program follows.

**BCIT's** part-time, Bachelor of Technology, Technology Management program aims to expand technical professionals' knowledge, management skills and attributes for their roles as

supervisors and managers in technical organizations. The program may be completed in 3-5 years, studying part-time.

**BCIT's** part-time, Bachelor of Technology, Construction Management program provides students with techniques to manage people, equipment, and money; schedule and plan; lead projects and teams; understand and apply relevant legislation, and make decisions. The program may be completed in 3-5 years, studying part-time or 2-3 years full-time.

**SFU's** part-time Masters of Technology MBA program may be completed in 24 months. The program is designed to prepare technology industry professionals to handle the business problems faced by their companies.

**TRU (Open Learning)'s** Bachelor of Technology degree program is designed to provide individuals possessing strong technical expertise with the background skills required to help them become effective workplace managers.

**TRU (Open Learning)'s** Bachelor of Technology , Trades and Technology Leadership degree program is designed to provide provides trades persons and technologists with the knowledge and skills necessary to become effective team leaders, supervisors and managers in a changing business and technical environment.

## Competitive Assessment

Three public postsecondary institutions in BC offer five programs focused on providing technical professionals or graduates with a technical background, with management skills. Of the programs offered by the three institutions, four programs (from BCIT and TRU-OL) lead to a Bachelor credential and one program (from SFU) leads to a Master's credential. A comprehensive internet search did not identify any related post-baccalaureate diploma programs.

*Technology professionals with a degree* are most likely to choose either SFU's Management of Technology Master's program or KPU's proposed Post-Baccalaureate Diploma program. The length of the two programs are the same (24 months, part-time). SFU's program will cost domestic students \$35,000 and cost international students \$43,500. The proposed tuition for KPU's program<sup>20</sup> -- between \$10,000-\$11,100 for domestic students and \$18,150 for international students – is much more affordable for students.

*New degree graduates without relevant work experience* would not be admitted into SFU's Management of Technology program. Thus, KPU's proposed Post-Baccalaureate Diploma program would serve them. KPU's proposed program could be completed in 12 months, full-time which may be attractive to new graduates. (A comprehensive internet search did not identify any other related post-baccalaureate diploma programs offered in the province).

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<sup>20</sup> To be confirmed.

*Working professionals without a degree* could either pursue a Bachelor's degree (there are four related degree programs from BCIT and TRU-OL) or KPU's proposed Post-Baccalaureate Diploma program in Technical Management and Services. KPU's proposed program (33 credits) can be completed in the shortest amount of time which will be appealing to some working professionals. However, others may choose to work towards a degree – Three of the four degree programs offered are approximately 60 credits in length and one program is 120 credits. The cost of the 60 credit degree programs for domestic students are estimated to be around \$11,000, similar to the proposed tuition for KPU's program (between \$10,000 and \$11,100). The domestic tuition of the 120-credit degree program is about double the cost (\$21,130). Estimated international tuition rate for the four degree programs ranges from \$25,300-\$42,720. The international tuition for KPU's proposed program would be the lowest at \$18,150.

## 4. Student Demand

The purpose of this section is to explore the extent of student demand for the proposed program mainly by examining the historic participation rates in related programs.

### Enrolments

#### *KPU School of Business Enrolments*

Enrolments in KPU's School of Business increased by 14% over the five-year period from 2010/11 to 2014/15 academic years, as shown in Exhibit 2.1. Bachelor degree programs, which are the most popular, have steadily increased within the past five years, up 70% between 2010/11 and 2014/15. Enrolments in the Post-Baccalaureate Diploma programs have been fairly steady.

**Exhibit 2.1: KPU School of Business Enrolments by Credential Level, 2010/11 to 2014/15**

Credential Type	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Baccalaureate degree	2,220	2,921	3,337	3,637	3,770
Associate degree	72	92	96	106	104
Diploma	3,110	2,808	2,685	2,554	2,423
Certificate	481	515	450	416	392
Post Baccalaureate Diploma	76	74	63	73	77

Source: KBIT (November 2015).

Note: Headcounts are unduplicated within each credential level. A student may be counted across more than one credential level.

Exhibit 2.2 shows enrolments in relevant technical programs from the School of Business for the past five academic years. Enrolment in the Bachelor of Technology in Information Technology degree and Diploma in Computer Information Systems diploma programs have increased at a rapid pace to reach 320 and 238, respectively, in 2014/15.

**Exhibit 2.2: KPU School of Business Headcounts by Select Programs, 2010/11 to 2014/15**

Program	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Bachelor of Technology in Information Technology *	83	82	196	279	320
Diploma in Computer Information Systems *	2	1	165	175	238

Source: KBIT (November 2015).

Notes: \* denotes inclusion of Co-Op Education Option programs. Headcounts are unduplicated within each program. A student may be counted across more than one program.

## ***KPU Faculty of Science and Horticulture Enrolment***

Enrolments in KPU's Faculty of Science and Horticulture increased by 17% over the five-year period from 2010/11 to 2014/15 academic years, as shown in Exhibit 2.3. This increase is mainly due to the introduction of degree programs and the growth of the programs over time.

### ***Exhibit 2.3: KPU Faculty of Science and Horticulture Enrolments by Credential Level, 2010/11 to 2014/15***

Credential Type	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Baccalaureate degree	0	2	15	111	229
Associate degree	1,028	1,094	1,062	1,082	1,045
Diploma	263	278	270	263	279
Certificate	223	245	268	214	210
Citation	13	18	20	24	21

Source: KBIT (August 2015).

Note: Headcounts are unduplicated within each credential level. A student may be counted across more than one credential level.

Exhibit 2.4 shows enrolments in related Bachelor degree programs from the Faculty of Science and Horticulture for the past five academic years. In 2014/15, enrolment in the three programs total about 65.

### ***Exhibit 2.4: Faculty of Science and Horticulture Headcounts by Select Bachelor Degree Programs, 2010/11 to 2014/15***

Program	Academic Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Bachelor of Applied Science in Sustainable Agriculture	0	0	9	29	40
Bachelor of Science in Applications of Mathematics	0	0	0	0	10
Bachelor of Science in Physics for Modern Technology	0	0	0	0	16

Source: KBIT (November 2015).

Note: Headcounts are unduplicated within each program. A student may be counted across more than one program.

## ***Enrolments at Other BC Public Postsecondary Institutions***

Full Time Equivalent (FTE) enrolments for 2010/11 to 2014/15 for related programs currently offered at other institutions in BC are shown in Exhibit 2.5. FTE enrolments in the listed programs exhibit an upward trend, increasing from 223 in 2010/11 to 250 in 2014/15.

### ***Exhibit 2.5: FTEs in Related Programs at other Public Institutions, 2010/11 to 2014/15***

Program Name	2010/11	2011/12	2012/13	2013/14	2014/15
BCIT: Construction Management Degree	86	88	103	108	108

Program Name	2010/11	2011/12	2012/13	2013/14	2014/15
BCIT: Technology Management Degree	40	52	60	61	59
TRU: BACH Technology, Technology Mgmt	27	24	30	24	27
SFU: Management of Technology MBA	70	61	61	63	56

Source: BC's Central Data Warehouse (May 2015 data) and BC Headset.

## Student Demand Assessment

Technical degree graduates from KPU's School of Business and the Faculty of Science and Horticulture (such as IT, applied sciences) are a likely target audience for the Post-Baccalaureate Diploma in Technical Management and Services. Graduates of those programs may want to return to KPU, where they completed their degree, to obtain their post-baccalaureate credential. Enrolments in KPU's Bachelor of Technology in Information Technology program have steadily increased over the past five academic years, from 83 in 2010/11 to 320 in 2014/15. Enrolments in related Bachelor degree programs from the Faculty of Science and Horticulture have also increased over a five-year period, reaching about 65<sup>21</sup> in 2014/15.

Full Time Equivalent (FTE) enrolments for related programs offered at other public postsecondary institutions exhibit an upward trend, increasing from 223 in 2010/11 to 250 in 2014/15.

In addition, as mentioned in the previous section, labour market demand is expected to be high in related occupational categories. This indicates an increasing need for employees with the skills KPU's proposed program is designed to provide, which should also contribute to positive demand for the program.

Overall, the data examined suggests there will be positive demand for KPU's proposed Technical Management and Services Post-Baccalaureate Diploma program.

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<sup>21</sup> A student may be counted across more than one program.

## Appendix A: Labour Market Information Sources

There are many sources of labour market information in Canada. At the federal level, the main sources are Statistics Canada, Employment and Social Development Canada (ESDC) (formerly Human Resources and Skills Development Canada), Industry Canada, and Citizenship and Immigration Canada. Provincial and territorial governments also produce provincial, regional, and local labour market information.

The ESDC uses the models of the Canadian Occupational Projection System (COPS) to develop projections of future trends in the numbers of job openings and job seekers by occupation and industry at the national level. At the occupation level, the projections are based on the National Occupational Classification (NOC), while at the industry level, the projections are based on the North American Industry Classification System (NAICS). The projections allow for identifying those occupations that may face labour shortage or labour surplus conditions over the medium term. The latest projections cover the 2015 to 2024 period.

The NOC system classifies 40,000 job titles into 520 occupational groups using 4-digit codes. The NOC system classifies occupations by skill level and skill type. Each digit of a NOC code reflects a trait of the occupation it represents. The first digit designates the occupation's skill type and the second digit identifies the occupation's skill level. The first two digits together identify the 26 major occupational groups. At the 4-digit level, the NOC System provides information on 520 occupational groups called unit groups.

The NAICS classifies industries and businesses using six-digit codes that classify North American businesses by type of economic activity. Depending on the level of detail required, the classifications can be aggregated to 2- (major industry), 3- (industry subsector), and 4-digit (subsector group) levels.