AGENDA

2:30 p.m. Thursday, November 21, 2019
Neatby-Timlin Theatre – Arts 241

In 1995, the **University of Saskatchewan Act** established a representative Council for the University of Saskatchewan, conferring on Council responsibility and authority "for overseeing and directing the university's academic affairs." The 2019/20 academic year marks the 25th year of the representative Council.

As Council gathers, we acknowledge that we are on Treaty 6 Territory and the Homeland of the Métis. We pay our respect to the First Nations and Métis ancestors of our gathering place and reaffirm our relationship with one another.

niyanān onīkānēwak kā māmawi apiyāhk, nikiskēhtiyinān ōma nikotwāsik kihci tipahamātowin askiy ēkwa mīna ēta āpihtowikosānak kā wīkicik. nikihcēyimānānak kahkiyaw iyiniwak ēkwa āpihtawikosānak osci ōta askīhk ēkwa kāwi ta kiskēhtamahk kiwahkohtowiniwa.

Kaa maashakoonitoochik li koonsay, ni kishkayhtaynaan aen ayaahk sur li tayrayn di li traytii sis pi iita kaa wiikichik lii Michif. Li rispay ni miiyaanaanik lii Praamyayr Naasyoon pi ni waahkoomaakanuk lii Michif iita kaa maashakoonitooyaahk pi ni shoohkamoonihtaanaan ka ishi waakoohtooyaahk.

1. **Call to Order**

2. **Tributes**

   2.1 Tribute to Professor Emeritus Dr. Graham Simpson, Department of Plant Sciences, presented by Karen Tanino

   2.2 Tribute to Dr. Alan Reese, St. Thomas More, presented by Dr. Michael Cichon

3. **Adoption of the Agenda**

4. **Opening remarks**

5. **Approval of Minutes of the meeting of October 17, 2019**

6. **Business Arising from the Minutes**

   6.1 Research Report Update – Karen Chad, Vice President Research

7. **Report of the President**

8. **Report of the Provost**

9. **Student Societies**

   9.1 Report from the USSU

   9.2 Report from the GSA

10. Academic Programs Committee

10.1 Request for Decision: Admissions Qualifications Change – Bachelor of Commerce (B.Comm.) programs

It is recommended that Council approve the proposed changes to the admissions qualifications for the Bachelor of Commerce (B.Comm.) programs, effective the 2021-22 admissions cycle.

10.2 Request for Decision: Degree-level Early Childhood Education Certificate

It is recommended that Council approve the degree-level Early Childhood Education Certificate in the College of Education, effective May 2020.

10.3 Report for Information: Changes to the Biomedical Science programs in the College of Arts and Science

10.4 Report for Information: Bachelor of Science in Environmental Geoscience program

10.5 Report for Information: Engineering Co-op Internship Program

11. Nominations Committee

11.1 Request for Decision: Nomination to the University Review Committee

It is recommended that Council approve the nomination of Allison Muri Department of English to serve as member of the University Review Committee for a six month term effective January 1, 2020.

11.2 Request for Decision: Nomination to the Governance Committee of Council

It is recommended that Council approve the nomination of Terry Wotherspoon, Department of Sociology, to serve as member of the governance committee of Council effective immediately until June 2022.

12. Governance Committee

12.1 Request for Decision: Proposed dissolution of the International Activities Committee of Council

It is recommended that Council authorize the dissolution of the International Activities Committee of Council, effective immediately.

12.2 Request for Decision: Updated Standing Committees' Terms of Reference and Internationalization

It is recommended that Council approve the attached changes to the terms of reference of PPC, RSAW, TLARC, and APC as they relate to internationalization or regular updates to membership and/or administrator titles, effective immediately.

12.3 Notice of Motion: Strategic Coordination Subcommittee Terms of Reference

It is recommended that Council approve the amendment of the Council bylaws by replacing the existing terms of reference for the Standing Subcommittee of the Coordinating Committee with the terms of reference for the Strategic Coordination Subcommittee as set out in the attachment.

13. Research Scholarly and Artistic Works

13.1 Report for Information: Annual Reports from the Research Ethics Boards

14. Teaching, Learning and Academic Resources Committee

14.1 Notice of Motion: Student Learning Experience Feedback Policy

It is recommended that Council approve the Student Learning Experience Feedback Policy.

14.2 Report for Information: Strategies for Approaching Trauma-Related Student Responses to Course Materials

15. Other business

16. Question period

17. Adjournment

Updated: November 15, 2019
Next meeting December 19, 2019 – Please send regrets to michelle.kjargaard@usask.ca
Deadline for submission of motions to the coordinating committee: November 25, 2019.

AGENDA ITEM NO: 5.0

UNIVERSITY OF SASKATCHEWAN

MINUTES OF UNIVERSITY COUNCIL
2:30 p.m. Thursday, October 17, 2019
Neatby-Timlin Theatre, Arts 241

Attendance: See item 3 Appendix A for the listing of members in attendance.

1. Call to Order

The meeting was called to order at 2:35.

2. Tributes

2.1 There was a tribute to Willi Braun, Department of Geological Sciences, presented by Dr. Brian Pratt.

2.2 There was a tribute to Man-Kam Leung, Department of History, presented by Dr. Gordon DesBrisay.

3. Adoption of the Agenda

The agenda was reordered to move the governance committee and planning and priorities committee before the academic programs committee items.

Brook/Urquhart: That the agenda be approved with the above amendments.

CARRIED

4. Opening remarks

The chair, Dr. Jay Wilson, acknowledged that Council meets on Treaty 6 Territory and the Homeland of the Métis.

He reported that the topic of the recent breakfast meeting with the chairs of Council and PEC was "Innovation and the World." It included a discussion of collaboration and the MOU with the City of Saskatoon. He thanked Laura Zink from VP Research Office for her presentation at the meeting.

Dr. Wilson reminded those in attendance of the protocols for Council meetings. Members were asked to direct questions related to the agenda items throughout the meeting. Questions related only indirectly to agenda topics should be posed during question period.

Dr. Wilson also reminded the audience of the purpose of Council meetings. He noted that there are only two hours allotted to discuss, debate and decide on matters critical to the business of the University. He asked that Council members and guests consider and respect the time constraints and keep the discussion on topic. He indicated that he was sharing this reminder as part of his responsibility as chair to represent the interests of all members of Council.

5. Approval of Minutes of the meeting of September 19, 2019

Stewart/Jones: That the minutes be approved as circulated.

CARRIED

6. Business Arising from the Minutes

None

7. Report of the President

President Stoicheff sent his regrets for the meeting. Dr. Irena Creed, AVP research and special advisor to the president on sustainability provided an update on the university's sustainability initiatives, in follow-up to the commitment made by the president in the spring of 2018/19. Dr. Creed gave a presentation (attachment 1). She indicated that USask is putting a high priority on meeting the ambitious agenda in the Sustainability Development Goals: 2030. This is part of university's commitment to becoming the university the world needs. A sustainability action plan will be developed within the coming year.

There was a question about when the university's report on our sustainability footprint will be made available to Council and what resources will be allocated to sustainability. Dr. Creed responded that the original report was drafted in 2016. She will be reviewing and updating it for presentation to Council [Table 1. Action 1]. She pointed to some of the exciting and interesting ideas to further reduce greenhouse gas emissions at USask, including a microgrid and solar panels. Further, while we are working in a financially insecure environment, the president and provost have commited to support for environmental sustainability at USask.

There was another question about which benchmarks we would be using in our reporting on sustainability, given the significant effort that has been made to measure progress against the STARS rating. Dr. Creed replied that we would explore national and international standards, as well as comparing to the U15 to see what an optimal benchmarking system might be.

The president of the USSU, Regan Ratt-Misponas thanked Dr. Creed for the presentation and inquired whether there would be support from the office of the president for student initiatives. Dr. Creed responded that student-led initiatives will continue to be supported.

There was a suggestion that the university should also look for matching or external funding to support sustainability.

Dr. Tony Vannelli, provost and VP academic presented the rest of the president's report in his absence. He spoke to three items in the president's report: the priority of sustainability for the institution; the 20th anniversary of the CLS; and the legacy of Dr. Eli Bornstein as the founder of *The Structurist*. He affirmed that sustainability and student led initiatives will be supported. He also acknowledged the contributions of Drs. Leung and Braun.

With respect to the contributions of Dr. Bornstein, who founded the longest running art and art history journal in Canada, *The Structurist*, Dr. Peta Bonham-Smith announced the new structurist fellowship. She noted that a related exhibit would open that night at the Kenderdine Art Gallery.

8. Report of the Provost

Dr. Vannelli spoke to the report of the provost. He pointed to the section of his report on the transition of the university's public health programming. He stated that we have unique opportunities to better support disciplines and interdisciplinarity at USask, not necessarily under one fixed administrative structure. We will transition to something else, something better, through a consultative and engaging process. The governance systems and processes will be followed, and the mechanisms, structures and vehicles to bolster interdisciplinarity have not been predetermined. Dr. Vannelli committed to coming back to Council with further information on TABBS 2.0, which will ensure that appropriate percentages of co-PI research will be credited and resources will follow. This will encourage interdisciplinary success and ensure that faculty are appropriately acknowledged and rewarded for their work. [Table 1. Action 2]

There was a question about when the progress report on the university plan would be presented to Council. Dr. Vannelli responded that it would be presented to Council in December 2019. [Table 1. Action 3]

9. Student Societies

9.1 Report from the USSU

There was no report received from the USSU.

9.2 Report from the GSA

Mery Mendoza, president of the GSA presented the GSA report. She indicated that the GSA continues to advocate for graduate student representation on the university's Board of Governors.

Dr. Brothwell, dean of the College of Dentistry, commended the GSA on their efforts. He asked if mental health first aid training would be offered to graduate students. Ms. Mendoza confirmed that training sessions were being provided.

10. Planning and Priorities Committee

Dr. Darrell Mousseau, chair of PPC presented one notice of motion and one request for decision.

10.1 Notice of Motion: New Vision for Interdisciplinary Public Health Programming at USask

It is recommended that Council approve the disestablishment of the School of Public Health on academic grounds, and upon the confirmation of Senate, recommend to the Board of Governors that it provide for the disestablishment of the school effective June 30, 2020.

10.2 Request for Decision: Fostering tomorrow's Leaders: Learning, Teaching and Student Experience Plan

Mousseau/Bruni-Bossio: It is recommended that Council approve Fostering Tomorrow's Leaders: The Learning, Teaching and Student Experiences Plan, which includes the enrolment 2025 goals, and that Council recommend to Senate that it confirm the University of Saskatchewan's enrolment goals to 2025.

There was a question about the resource and quality implications of planned enrolment increases in course-based and certificate-based graduate programs. Dr. Trever Crowe, dean of the College of Graduate and Post-Doctoral Studies and Dr. Patti McDougall, vice provost, Teaching, Learning and Student Experience, responded that the plan was developed in consultation with the deans and that it was within their purview to appropriately allocate resources behind these priorities. Dr. McDougall further indicated that the next phase of implementation, some of which is reflected in college plans, would advance this priority. The provost further responded that workloads and faculty assignments will continue to follow the USFA Collective Agreement.

CARRIED

11. Governance Committee

Dr. Stephen Urquhart, chair of the governance committee, presented two notices of motion.

11.1 Notice of Motion: Dissolution of the International Activities Committee

It is recommended that Council approve the dissolution of the International Activities Committee of Council effective immediately.

Dr. Urquhart indicated that the dissolution of the international activities committee (IAC) [11..1] was being presented in conjunction with changes to some of the Council standing committees' terms of reference [11.2]. He indicated that the governance committee had talked with Dr. Keith Walker, chair of the IAC working group that made the recommendation to dissolve the committee. The IAC determined that the business it was dealing with was increasingly operational and less strategic.

He reported on discussions of the proposal at the governance and coordinating committees' meetings. The committees determined that to ensure that the faculty voice on internationalization not be lost, that the other standing committees should be asked to review their terms of reference. Also, he had received assurances from the chair of the coordinating committee, Dr. Wilson, that considerations of internationalization would be reported in the annual reports of the standing committees at the end of the year [Table 1. Action 4].

He also addressed a concern that had been raised at the September Council meeting about the representation of faculty on the IAC working group that had made this recommendation. He noted that faculty members on the committee included Drs. Keith Walker, Jim Lee, and Patti McDougall. Granted two of these individuals are also members of the administration, Council is responsible for shared governance between administration and academics.

A Council member noted that two of the dates were wrong in the report. April 2019 should read April 2018, and December 2019 should read December 2018.

A Council member spoke against the motion. She commented that this proposal still puts at risk faculty voice and involvement in internationalization and that it was inconsistent with the priority placed on globalism articulated in the university plan.

Dr. Paul Orlowski, who was chair of the IAC in 2018/19 replied that the committee raised and considered similar concerns about both faculty and student voice in international work. That said, the vote to dissolve the committee was passed by consensus.

11.2 Notice of Motion: Updated Standing Council Committees' Terms of Reference and Internationalization

It is recommended that Council approve the attached changes to the terms of reference of PPC, RSAW, TLARC, and APC as they relate to internationalization or regular updates to membership and/or administrator titles, effective immediately.

Dr. Urquhart reported that in relation to the motion to dissolve the IAC, and related to the concern about faculty voice in internationalization the coordinating committee had taken action. All standing committees of Council were asked to review their terms of reference in consideration of this proposal and of the ongoing priority for internationalization. Some housekeeping changes were also proposed for administrator titles. In summary: PPC reported that internationalization was already captured; the coordinating and nominations committee determined that their terms of reference did not need a specific mention of internationalization; RSAW, APC and TLARC included changes to reflect the priority for both internationalization and Indigenization, specifically.

A Council member spoke against the proposal as it related to the motion to dissolve and thereby distribute the responsibility for internationalization.

Dr. McDougall reminded Council of the International Blueprint that was presented to Council, which recommended the implementation of an international operations committee. The IAC had an absence of governance issues to deal with, whereas there are ongoing operational issues.

12. Academic Programs Committee

Dr. Susan Detmer, chair of APC, presented three items for decision.

10.1 Request for Decision: Program Name change – Kanawayihetaytan Askiy Diploma in Aboriginal Lands Governance (to Indigenous Lands Governance) and Kanawayihetaytan Askiy Diploma in Aboriginal Resource Management (to Indigenous Resource Management)

Detmer/Brook: *It is recommended that Council approve:*

(1) the proposed name change for the Kanawayihetaytan Askiy Diploma in Aboriginal Lands Governance, effective May 2020.

CARRIED

Detmer/Brook: *It is recommended that Council approve:*

(2) the proposed name change for the Kanawayihetaytan Askiy Diploma in Aboriginal Resource Management, effective May 2020.

CARRIED

10.2 Request for Decision: Admissions Qualification Change - Master of Science (M.Sc.) in Marketing

Brook/Detmer: *It is recommended that Council approve the proposed change in admissions qualifications for the Master of Science (M.Sc.) in Marketing, for applicants admitted for September 2020 or later.*

There was a discussion of the minimum entrance requirements for the program. A concern was raised that it would decrease the quality of applicants. Dr. Crowe and Dr. Maureen Bourassa responded that only in certain circumstances would the minimum score requirement be waived to consider holistically other qualities that applicants bring, which can also be indicators of potential success in the program. Another question was raised about why certain comparator institutions were included in the analysis. Dr. Bourassa responded that regional program comparators were included.

13. Nominations Committee

Dr. Eric Lamb, vice-chair of the nominations committee to presented their item.

13.1 Request for Decision: Nomination to the Western College of Veterinary Medicine Dean's Review Committee

Lamb/Urquhart: It is recommended that Council approve the nomination of Scott Bell, Department of Geography and Planning to serve on the Western College of Veterinary Medicine Review Committee as a member effective immediately.

CARRIED

14. Research, Scholarly and Artistic Works Committee

Dr. Jon Bath, chair of RSAW presented a report for information.

14.1 Report for Information: Responsible Conduct of Research Policy – 2018 Report of Allegations and Breaches

Dr. Bath noted that the report was from 2018, and relates to faculty not graduate students. The matters are confidential therefore he is not in a position to comment on individual cases. The report does not include post-doctoral fellows.

15. Other business

None.

16. Question period

A Council member asked Dr. Creed if as part of our sustainability action plan, USask was going to consider removing meat from its menus across campus as other universities in the UK have done. Dr. Creed responded that sustainability leadership does include purchasing matters. However, the Canadian Food Guide was recently updated and does not omit meat from the diet.

A suggestion was raised about the practices for emailing and posting Council agendas on the website. Perhaps a PAWS announcement could be made instead.

A Council member spoke about the "admonition" that was made by the chair of Council at the beginning of the meeting about the appropriate conduct of business at Council meetings. He suggested that specific instances or individuals could be addressed directly rather than making broad statements at the meeting. The chair responded that he wished to give Council members the opportunity to reflect on their conduct, performance, and engagement and comments at the meetings. He also wished to provide an explanation of expectations at the meetings.

The Council member inquired as to the chair's comment about "grandstanding" and asked him to define it. Dr. Wilson responded that to him, it meant raising the same items over and over with limited impact, or personal platforms that do not relate to items on the agenda. The Council member replied that Council is authorized to make statements on any aspect of university business.

A Council member offered that the sustainability working group look to evidence to inform decision making, and that there is expertise in the College of Agriculture to assist with this.

A question was posed about how the university determines who can lease campus space. He raised a concern that a religious group was present and recruiting on campus in the Arts Building, and that this group does not espouse the values of the university.

A Council member remarked that this was only the second time in two years that he had been able to stay until question period, referring to the meetings running overtime, i.e. past 4:30p.m.

17. Adjournment

Jones: The meeting adjourned by motion.

Table 1. Action items

No.	Page	Date	Action	Responsible
1	p.2 s.7	10/17/2019	Presentation of updated USask Sustainability Plan to Council	Irena Creed
2	p.3 s.8	10/17/2019	Presentation of "TABBS 2.0" to Council	Tony Vannelli
3	p.3 s.8	10/17/2019	Progress report on the University Plan will be presented in December 2019	Tony Vannelli
4	p.4 s. 11.1	10/17/2019	Internationalization in committee annual reports	Stephen Urquhart

Attachments

1. Appendix A – Attendance from the meeting of October 17, 2019
2. Appendix B – President's Report: Sustainability Initiatives presentation
3. Appendix C – Fostering Tomorrow's Leaders: Learning, Teaching and Student Experience Plan presentation

Next meeting November 21, 2019 – Please send regrets to michelle.kjargaard@usask.ca
Deadline for submission of motions to the coordinating committee: November 6, 2019.

COUNCIL ATTENDANCE 2019-2020

ATTACHMENT 1 - Appendix A

Voting Participants

Name	Sept 19	Oct 17	Nov 21	Dec 19	Jan 16	Feb 20	Mar 19	Apr 16	May 21	June 18
Aitken, Alec	R	P								
Alcorn, Jane	A	A								
Berry, Lois	R	P								
Blakley, Jill	R	P								
Boland, Mark	P	P								
Bonham-Smith, Peta	P	P								
Brook, Ryan	P	P								
Brothwell, Doug	R	P								
Bruni-Bossio,Vince	A	P								
Buhr, Mary	P	R								
Burgess, David	P	P								
Card, Claire	P	P								
Carter, Mark	P	P								
Chernoff, Egan	A	A								
Chibbar, Ravindra	P	R								
Crowe, Trever	P	P								
D'Eon, Marcel	P	P								
Dawson, DeDe	P	P								
de Boer, Dirk	P	P								
Delbaere, Marjorie	P	A								
Deters, Ralph	P	P								
Detmer, Susan	P	P								
Dick, Rainer	P	P								
Dobson, Roy	P	R								
Downe, Pamela	P	P								
Elias, Lorin	P	P								
Engler-Stringer, Rachel	P	R								
Eskiw, Christopher	A	A								
Flynn, Kevin	P	P								
Foley, Sarah	P	R								
Fotohui, Reza	R	P								
Freeman, Doug	R	R								
Gabriel, Andrew	A	P								
Gillis, Glen	P	P								
Gjevre, John	P	R								
Harrison, William	A	A								
Henry, Carol	R	A								
Illing, Kate	A	R								
Jamali, Nadeem	P	P								
Jensen, Gordon	P	R								
Jones, Paul	R	P								
Just, Melissa	R	A								
Kalra, Jay	P	A								
Kelly, Timothy	P	P								
Khandelwal, Ramji	P	R								
Klassen, Lauren	A	A								
Ko, Seok-Bum	P	P								
Kresta, Suzanne	P	R								
Kumaran, Arul	P	A								
Lamb, Eric	P	P								
Lane, Jeffrey	P	A								
Langhorst, Barbara	R	R								
Lanovaz, Joel	P	P								
Lindenschmidt, Karl	P	P								
London, Chad	P	P								
Luke, Iain	R	A								
Macfarlane, Cal	A	R								
MacLean, Jason	R	A								

Name	Sept 19	Oct 17	Nov 21	Dec 19	Jan 16	Feb 20	Mar 19	Apr 16	May 21	June 18
Manley-Tannis, Richard	P	R								
Markham, Taylor	A	A								
McEwen, Alexa	A	R								
Mousseau, Darrell	A	P								
Murphy, JoAnn	P	P								
Neufeld, Matthew	P	P								
Newman, Kagan	A	A								
Papagerakis, Petros	A	A								
Phillipson, Martin	P	P								
Pocha, Sheila	P	A								
Poettcker, Grant	A	A								
Power, Sarah	A	A								
Prytula, Michelle	P	R								
Racine, Louise	R	R								
Reaser, Isaac	A	A								
Risling, Tracie	P	P								
Sarty, Gordon	P	P								
Saxena, Anurag	A	P								
Shevyakov, Alexey	P	A								
Shin, Hyunjung	P	P								
Singh, Jaswant	A	P								
Smith, Charles	P	A								
Smith, Preston	R	A								
Smith-Norris, Martha	P	P								
Soltan, Jafar	P	P								
Sommerville, Kara	P	R								
Spurr, Shelley	P	P								
Squires, Vicki	P	A								
Stoicheff, Peter	P	R								
Stuart, Glenn	P	P								
Swidrovich, Jaris	P	R								
Urquhart, Stephen	P	P								
Vannelli, Tony	P	P								
Waldner, Cheryl	P	P								
Walker, Keith	P	R								
Willenborg, Christian	P	R								
Willness, Chelsea	P	P								
Willoughby, Keith	P	P								
Wilson, Jay	P	P								
Wilson, Lee	P	A								
Woods, Phil	P	P								
Wotherspoon, Terry	P	P								
Zello, Gordon	R	R								
Zhang, Chris	P	P								

COUNCIL ATTENDANCE 2019-2020

Non-voting participants

Name	Sept 19	Oct 17	Nov 21	Dec 19	Jan 16	Feb 20	Mar 19	Apr 16	May 21	June 18
Bilson, Beth	P	P								
Chad, Karen	P	P								
Fonseca, Alejandra	P	P								
Fowler, Greg	A	P								
Isinger, Russell	P	P								
McDougall, Patricia	P	A								
Mendoza, Mery	P	P								
Morrison, Karen	R	P								
Munoz Pimentel, Carlos	P	P								
Osburn, Debra Pozega	P	P								
Ottmann, Jacqueline	P	A								
Ratt-Misponas, Regan	P	A								
Still, Carl	P	R								

President's report: Sustainability Initiatives

"Universities well positioned for the future place a high priority on sustainability."

Particularly true now,
with the United Nations SDGs to transform our world by 2030.

Particularly true for USask,
with a strategic plan to become the **"University the World Needs".**

“Sustainability isn’t merely another problem to be tackled or solved … it is a basic element that must be part of all decisions made within the influence of the institution.”

The importance of sustainability is being recognized by the global community.

Times Higher Education,
which already publishes the
World University Rankings,
announced its intention to publish the world’s first university **impact** ranking.

This represents a **shift** of focus from relying mostly on inputs and outputs to **impact**.

University Affairs
Edmund Adam | Feb 14 2019

BUILDING A RANKING

USask's four principles—sustainability, creativity, diversity and connectivity—lie at the heart of our strategic plan.

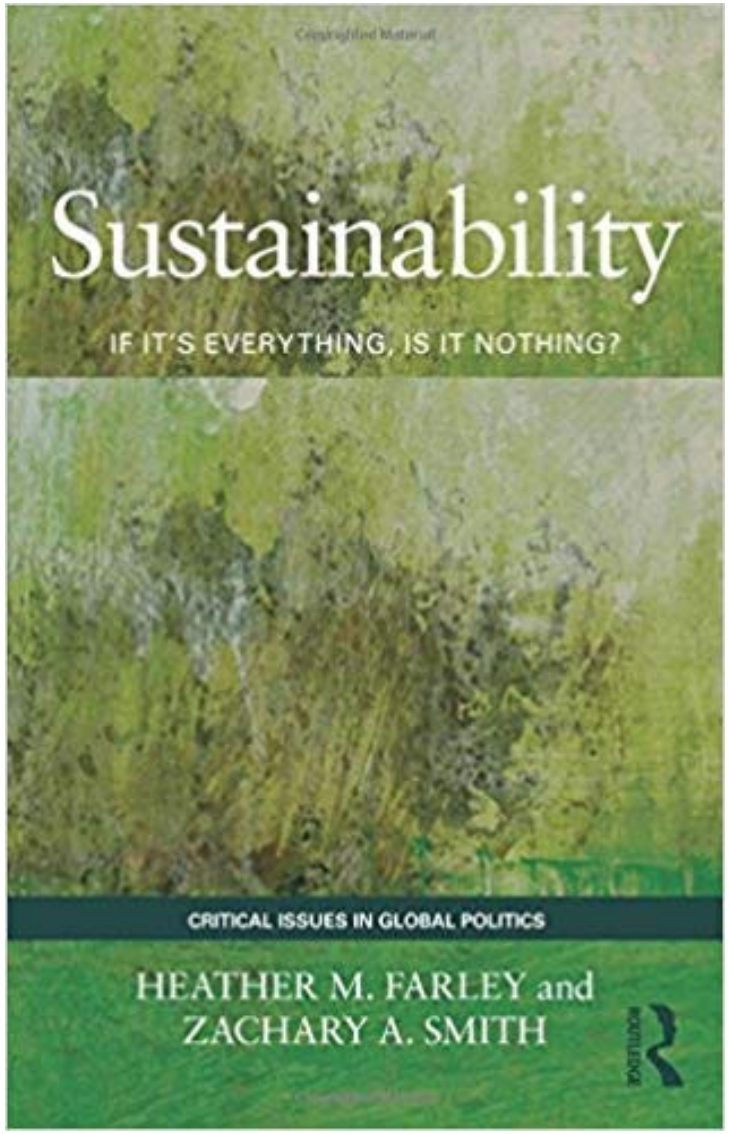
."

While sustainability is a goal that everyone supports, almost no one means the same thing when they use the term.

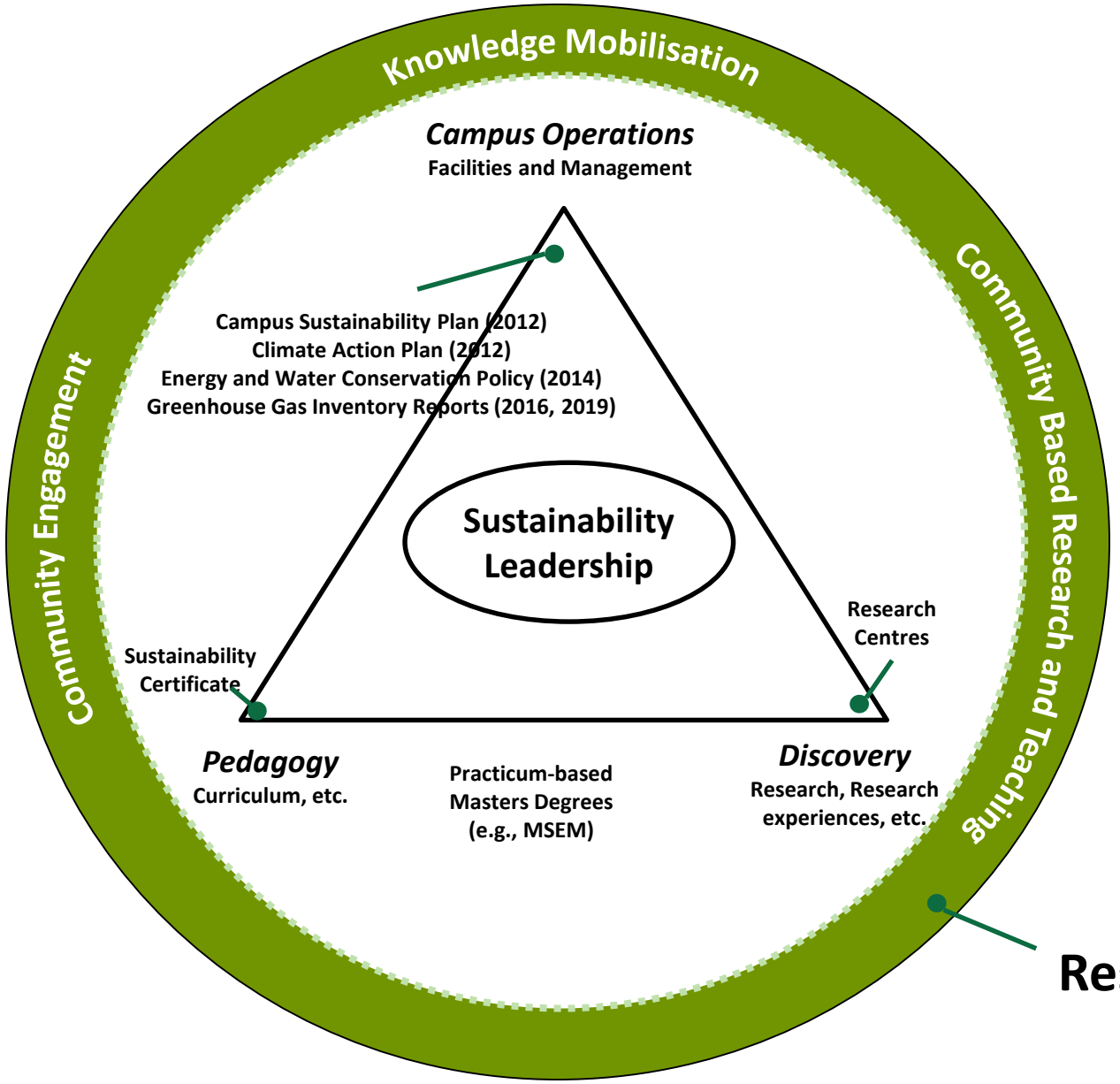
We need to make sustainability relevant for the context of **our** institution.

Step 1: Define sustainability

Step 2: Articulate our commitments to sustainability



“There are many activities and initiatives that fall within the scope of sustainability at USask.”



Step 3: Develop a campus-wide strategy

“We need to bring together the many initiatives already underway on campus, see where areas of improvement may lie, and then forge ahead with a cohesive strategy.”

Step 4: Set Goals and Desired Outcomes

We need 5-year (2021-2025) and 10-year (to 2030) goals and desired outcomes in our sustainability action plan.

“It is important to make a comprehensive statement about USask’s commitment to sustainability, a statement we hope to make with this plan and its resultant actions.”

We need to start work immediately!

Establish	Establish an advisory circle
Benchmark	Evaluate USask’s position relative to peer schools in Canada and international recognised standards
Consult	Consult with USask community to identify current practices and desirable practices
Identify	Identify opportunities for improvement and identify gaps offering a staged approach to closing the gaps
Act	Develop a 5-year and 10-year action plan that will help USask achieve its sustainability goals

Our **timeline** is to commence work January 1 and present completed work to University Council for endorsement by December 1 2020.

Fostering Tomorrow's Leaders

Learning, Teaching and Student Experience Plan

University Council
October 17, 2019

Request for Decision

BE WHAT THE WORLD NEEDS

UNIVERSITY OF SASKATCHEWAN

Learning, Teaching and Student Experience *Institution-wide Plan*

Student Experience

Strategic Enrolment Management

Teaching and Learning

BE WHAT THE WORLD NEEDS

University of Saskatchewan

Enrolment 2025 – Growth Goals

Level	Baseline (2017-2018)	Progress (2018-2019)	Projected (2024-2025)
Undergraduate	19,466	20,088	23,094
Graduate	4,164	4,337	4,770
Non-Degree	745	769	900
Post-Graduate Clinical	549	509	552
Total	**24,924**	**25,703**	**29,316**

UG Students
- 15% Indigenous
- 10% international

Grad Students
- 10% Indigenous
- 35% international

BE WHAT THE WORLD NEEDS

#1 Enhancing and aligning systems, structures, and processes

We will reexamine and modify our systems, structures and processes as the key tool for growth

UNIVERSITY OF SASKATCHEWAN

#2 Sharing our stories and celebrating our successes

We seek to honour our history, share our stories, and celebrate our successes

UNIVERSITY OF SASKATCHEWAN

#3 “Walking the talk” of reconciliation

We will intentionally contribute to a sense of belonging, resilience and achievement for all

UNIVERSITY OF SASKATCHEWAN

#4 Maintain a climate of inclusion, empowerment, and support

We will create learning environment that recognize the whole person

UNIVERSITY OF SASKATCHEWAN

#5 **Preparing learners the world needs**

We will advance the development of core skills and enable lifelong learning

BE WHAT THE WORLD NEEDS

UNIVERSITY OF SASKATCHEWAN

Thank you

BE WHAT THE WORLD NEEDS

Baseline and Projected UG Enrolment Growth by College

College	Baseline (2017-18)	Goal (2024-25)	Change
Agriculture and Bioresources	1,351	1,417	66 (5%)
Arts and Science	9,414	10,814	1,400 (15%)
Dentistry	117	142	25 (21%)
Education	1,691	2,422	731 (43%)
Edwards	1,982	2,725	743 (37%)
Engineering	1,675	2,037	362 (22%)
Kinesiology	571	813	242 (42%)
Law	417	417	-
Medicine	408	408	-
Nursing	1,043	1,043	-
Pharmacy and Nutrition	434	501	67 (15%)
Western College of Veterinary Medicine	333	350	17 (5%)
Other	30	5	-
Total for all colleges	19,466	23,094	3,628 (19%)

As of Spring, 2019

Baseline and Projected Grad Enrolment Growth by College

College/School	Baseline (2017-18)	Goal (2024-25)	Change
Agriculture and Bioresources	327	362	35 (11%)
Arts and Science	1,004	1,214	210 (21%)
Dentistry	0	33	33 (-)
Education	602	773	171 (28%)
Edwards	259	304	45 (17%)
Engineering	504	504	-
Kinesiology	46	46	-
Law	25	25	-
Medicine	334	354	20 (6%)
Nursing	132	148	16 (12%)
Pharmacy and Nutrition	81	65	-16 (-20%)
School of Environment and Sustainability	137	186	49 (36%)
School of Public Health	170	170	-
School of Public Policy	190	226	36 (19%)
Western College of Veterinary Medicine	153	160	7 (5%)
Other (e.g. interdisciplinary programs)	200	200	-
Total for all colleges/schools	4,164	4,770	606 (15%)

As of Spring, 2019

UNIVERSITY OF SASKATCHEWAN

PRESIDENT'S REPORT TO UNIVERSITY COUNCIL November 2019

Fall Convocation

On November 13th, the University of Saskatchewan held its fall convocation at Merlis Belsher Place. It is the second time that the USask convocation ceremony was held on campus since 1968. More than 900 degrees, diplomas and certificates were awarded to USask students, including the Master Teacher Award and Distinguished Researcher Award. In addition to this, the ceremony also included the awarding of one honorary degree, an earned doctor of science, and the installation of the university's new Chancellor.

As a part of the ceremony, both the Master Teacher award and Distinguished Researcher award were presented. I wish to congratulate Dr. Patricia Dowling and Dr. Nazeem Muhajarine, who received these awards respectively. Dr. Dowling is known as a passionate and innovative teacher in the department of veterinary biomedical sciences in the Western College of Veterinary Medicine, and Dr. Muhajarine is a professor in the department of Community Health and Epidemiology and one of Canada's most accomplished population health researchers.

USask bestowed its highest honour to community and corporate leader Jefferson (Jeff) Mooney. Awarded an honorary Doctor of Laws, Mr. Mooney is a distinguished alumnus and Order of Canada recipient, who studied both history and philosophy at USask and graduated with a Bachelor of Arts degree in 1966. Mr. Mooney went on to lead one of the country's most successful restaurant chains, becoming a pillar of the business community in Canada. His remarkable record of success in business has been matched by his dedication to giving back to the community as a volunteer and as a generous supporter of many social causes.

Dr. Graham George, Canada Research Chair in X-ray Absorption Spectroscopy and professor in the Department of Geological Sciences, received the Earned Doctor of Science degree, only the second awarded since 2012. Dr. George is an influential leader in synchrotron science and his research has contributed to advances in molecular toxicology, environmental science and bioinorganic chemistry. His work has had broad impact in environmental and health sciences.

And a final, significant honor bestowed during the fall convocation ceremony, was the installation of the university's 16th Chancellor, Grit McCreath. Grit McCreath has been a champion of education, having spent 32 years as a teacher and education administrator in Saskatoon and Calgary, among other places. She graduated from the College of Education in 1991 and has served on the USask Senate and Board of Governors, and in 2015 was named the first honorary ambassador for the university.

Research

In mid-October we received information regarding a fascinating story unfolding at a USask research site on the Athabasca Glacier in Jaspar, Alberta. Dr. John Pomeroy, USask water scientist with the Global Institute for Water Security (GIWS) accompanied climate activist Greta Thunberg on a scientific briefing of the rapidly depleting Athabasca glacier. Thunberg's passion for raising awareness around climate change has led her to travel the globe and meet with leading scientists to gain a better understanding of the severe impacts of climate change. Dr. Pomeroy is one of those leading scientists, and is the director

of USask's Global Water Futures, the largest university-led freshwater research program in the world. Dr. Pomeroy has been studying the area since the early 1980s, noting the profound impacts of climate change on the glaciers, mountain snowpacks and water supplies.

Outreach

A year ago this month, the University of Saskatchewan launched its new strategic plan that committed USask to becoming the university that the world needs. As a part of this plan, USask has been active in creating partnerships with external partners to better develop its outreach and connections. Most recently I was able to travel to Korea on a trade mission led by the Government of Saskatchewan. Along with a number of representatives from various ministries, the mission included a contingent of Saskatchewan businesses, and strong representation from the academic sector, including USask, Saskatchewan Polytechnic, and the University of Regina. With a focus on strengthening academic and research ties, a number of agreements were signed to promote student exchange opportunities and research initiatives. In late-November I will have the opportunity to continue this outreach by taking our USask story to India, where we will be meeting with a number of key stakeholders and strengthening our partnerships in the region.

AGENDA ITEM NO: 8.0

Provost's Report to Council

November 2019

GENERAL REMARKS

This month I will highlight that we are in the process of determining resource allocations that will shape the university budget going into 2020-21 budget year. As Provost, I will be placing as much of the resources that I can to allow the university to move forward with all its planning and vision. As highlighted below, we have made major changes in TABBS to capture collaboration and encourage interdisciplinarity on academic and research programs going forward. We are working hard at all levels; i.e., at College and School levels, support centre level to make sure the university is in a sound position going forward into 2020-21. I will brief Council through March 2020 as we finalize our university budget submission to the Board of Governors.

The section prepared by IPA on rankings is self-contained but I want to emphasize the importance that rankings and their impact they do have on our reputation, ability to attract the very best faculty and students and allowing us to have engagement at the levels we deserve.

Finally, please see the update By Dean Melissa Just of the Library on the impact of our budget challenges on the Library Collection for 2019-20. The Library is working very hard with these constraints to minimize the impact to the university academic mission and that scholarship can be maintained at a high level. I will be asking Dean Just to join me in addressing Council on this important matter.

INSTITUTIONAL PLANNING AND ASSESSMENT

Resource Allocation and Planning Processes

The 2020-21 resource allocation process is well underway guided by the strategic and multi-year financial plans submitted by colleges, schools, and support centres. Working with the Controller's Office and Office of Financial Strategy, Institutional Planning and Assessment has received, assessed, and prepared these in context for resource allocation conversations and decisions taking place this month. In preparation for 2020-21 resource allocation, several refinements were made to the TABBS model in effort to better include, clarify, and recognize the diversity of activities taking place on our campus. Those refinements include formal recognition for collaborative programs, teaching and research, as well as much expanded definition of activity in RSAW.

Update on University Rankings

Each year, numerous national and international rankings organizations release an updated assessment on our performance in various areas relative to other Canadian and global post-secondary institutions. Rankings can impact our ability to recruit students and faculty, create new partnerships and collaborations with other universities, and attract donor investments. Nationally, these are Maclean's and Research Infosource; internationally, these include the Times Higher Education, World University Rankings, Quacquarelli (kOk-kO-rA-ll-I) Symonds, World University Rankings and the Academic Ranking of World Universities. USask dropped slightly to 15 in Maclean's, remained constant in the Academic Ranking of World Universities

(301-400 out of ~1,800) and the Times Higher Education (401-500 out of ~1,400), and moved up slightly in Quacquarelli Symonds (tied at 439 out of ~1,600). The Research Infosource ranking is released in November; we expect to remain close to last year's position (14 out of 50). Further updates will be reported to Council as our work unfolds in this area. More information on university rankings can be found on Institutional Planning and Assessment's website: https://www.usask.ca/ipa/Assessment-and-Analytics/university-rankings.php

COLLEGE AND SCHOOL UPDATES

University Library

Over the course of the last eight months, the library has been communicating across campus about the need to balance our collections budget. Due to the rising, unsustainable costs of journal subscriptions and unfavorable foreign exchange rates, we need to reduce our spending on electronic resources by $1.38M in order to balance the 2019/20 budget. Throughout the spring and fall we met with most faculty councils, RSAW, TLARC, GSA, and USSU to share an overview of the scholarly publishing environment, the journal packages we are cancelling, and the principles and processes we employed to make our decisions. We also sought feedback from faculty and graduate students and added that information to the internal data we gathered to guide us in the selection of the titles we would re-subscribe to from the cancelled journal packages. All information about the activity and communication to date is available on the library's Balancing the Collections Budget website.

The unsustainable scholarly publishing ecosystem is a worldwide issue affecting access to published research at many institutions. In Canada alone, University of Calgary, Queens University, Universite Laval, Memorial University, and Universite de Montreal have all made significant cuts in the last three years. Undoubtedly, more will follow. Other institutions (see University of California, UNC Chapel Hill) and countries (Germany, Norway, Sweden) have taken a more proactive approach to addressing the issue by developing a set of principles that promote author rights, the free dissemination of scholarly outputs, and transparent licensing agreement with commercial publishers. Tri-agency requirements for open access and open research data (coming soon) are already driving this conversation forward, and fiscal realities are crystalizing the need for action.

In the coming months, the University Library, the Office of the Provost and VP Academic, and the Office of the VP Research will be working together to engage with the campus community to develop strategies that enable us to proactively participate in the global scholarly communication conversation.

College of Arts & Science

Lawrence Blough, principal of GRAFTWORKS Design Research and professor at Pratt Institute School of Architecture, was named the inaugural 2018-19 Structurist Fellow. This award recognizes the legacy of the internationally renowned journal *The Structurist* which was founded in 1960 by Professor Eli Bornstein, professor emeritus in the Department of Art and Art History. Professor Blough's exhibition, entitled *Domestic Mutations in the Age of the Sharing Paradigm*, opened along with a lecture on Thursday, October 17 and will continue until December 13 at the Kenderdine Art Gallery. At the opening, it was also announced that applications for the second Structurist Award are now open and will be accepted until 31 January 2020. Further details regarding this award can be found at http://drc.usask.ca/projects/structurist/form.html.

The Digital Research Centre (DRC) has relocated to the Murray Library and this move will allow research, artistic works and items of cultural significance to be accessible to those on campus, but will also reach beyond the academy to enhance collaboration and community engagement. The DRC's new structure will provide a range of

supports, from assistance in grant development to archiving digital projects in ways that are more accessible to a range of users including collaborative services and creative work spaces for students, faculty and community partners. This home of digital scholarship will foster and support courageous curiosity, boundless collaboration and inspired communities.

For more news and events please visit: http://artsandscience.usask.ca/news/

AGENDA ITEM NO: 9.1

University Council Report

USSU Executive | October and November 2019

Executive

Our Executive Team has been active since June, working on initiatives for our individual portfolios and for the union as a whole. The executive had the opportunity to meet with other student leaders in our province and across the country through the Saskatchewan Students' Coalition, and the Student Union Development Summit. We are involved in an organization that brings together the student unions of the top research-intensive post-secondary institutions called Undergraduates of Canadian Research-intensive Universities (UCRU).

During the month of September, the executive has engaged in a number of initiatives including Welcome Week, Campus Club Week, Know Your Rights Week.

October saw the election of Autumn LaRose Smith as Vice President Student Affairs. We are excited to have Autumn as a member of our team and welcome her to the USSU. We were pleased to have helped facilitate *Missing and Murdered Indigenous Women, Girls, and Two Spirit Awareness Week* on campus, along with the Aboriginal Students' Centre. We spent much time focussed on the federal election that took place, hosting Elections Canada in the Place Riel Building where it was easily accessible for students to vote in any riding across the country. At that time, we hosted a candidates forum so students could find out more about the individuals vying to represent Saskatoon-University. We ended the month by attending the opening of the Legislative Assembly and meeting multiple legislators during the Speech from the Throne.

Throughout the last few months, we have created a vision for where we would like our community to go titled *The Path Forward*. We have been developing an Action Plan to show students the goals we have set. Yearly, we host an Annual General Meeting where changes to our bylaws can be proposed and made. That AGM is set for tonight in the Neatby-Timlin Theatre (Arts 241) at 6 PM.

Promote Education

- President's breakfast X2
- All Candidates Forum
- UCRU National Letter
- Get out the vote campaign
- Accessible voting in Place Riel
- Know Your Rights Week
- Academic Advocacy work

Revitalize Community

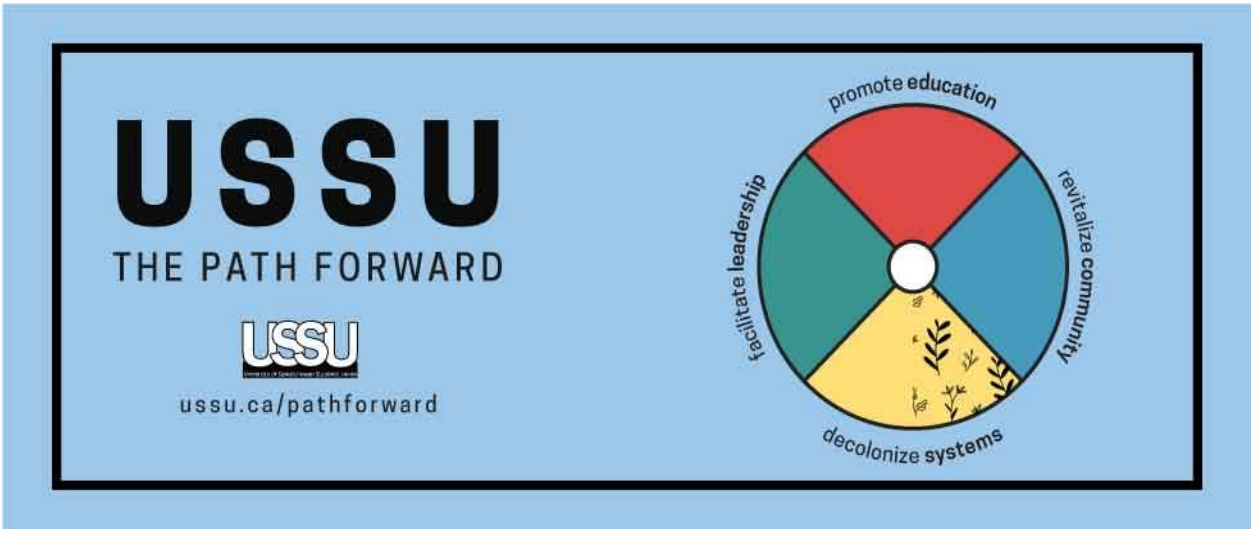
- Faith Leaders Breakfast
- Face 2 Face
- Climate March
- Prince Albert Campus and SUNTEP Visit
- Attended the unveiling of the Red River Cart at Gordon Oakes Red Bear Student Centre
- Queerpalooza (Pride Centre)
- USask Against Racism
- Sexual Assault Awarenesss Week (Women's Centre)
- Mental Health Awareness Week (Help Centre)

Decolonize Systems

- Indigenous Knowledge Keeper Joseph Naytowhow
- The process and presentation of the graphic for the path forward
- Missing and Murdered Indigenous Women, Girls, and Two Spirit Awareness Week

Facilitate Leadership

- Peer Advocacy and Conflict Resolution Training (offered Office of the University Secretary, the College of Law, and the Office of the Vice-Provost Teaching, Learning, and Student Experience)
- Campus Club Week
- Campus Club resources (project planning and budgeting guides)
- Centre Volunteer Orientation Training
- Campus Group Survey
- Annual General Meeting



AGENDA ITEM NO: 9.2

University of Saskatchewan Graduate Students' Association

University Council Report, November 2019

Dear Members of University Council,

In this report, we focus on two main areas that we are currently working on:

1. Enhancing activities related to mental health and wellbeing in our campus community
2. Support of the Teaching Preparation Certification program and the Graduate Career Skills Training Assessment initiative

1. Enhancing activities related to mental health and wellbeing in our campus community

We continue our efforts to create activities that help us create a sense of community and support the wellbeing of our graduate students. The GSA had a very busy month, preparing activities related to mental health and wellbeing as well as other networking activities, which are for the ultimate benefit of our graduate students. The GSA is also busy with the fall 2019 Need-Based Bursary selection having received more than 130 applications. All graduate students were eligible to apply; however, students who are ineligible for scholarships and demonstrated financial need, good community involvement and academic performance have more preference for this bursary. Moreover, the GSA Executives are working towards the organization of our annual gala, three minute thesis competition, Graduate Research Conference, as well as other events.

2. Support of the Teaching Preparation Certificate program and the Graduate Career Skills Training Assessment

The Gwenna Moss Centre for Teaching and Learning, with partnership from the CGPS, is creating a new Teaching Preparation Certificate program that will benefit graduate students and post-doctoral fellows by providing opportunities for teaching and leadership experiences, which otherwise may be challenging to achieve. The GSA fully supports the Teaching Preparation Certificate program and looks forward to partnering and collaborating in the creation of this program. Teaching builds confidence and ensures our graduate students are able to reflect, analyze and deepen their understanding of their field of study. The GSA also supports the Graduate Career Skills Training Assessment, another initiative that is currently in the beginning stages. We look forward to partnering and collaborating to enhance our understanding of career skills and reflecting on the needs of our graduate students

We will continue working on these and other initiatives that support the academic success of our graduate students and campus community as a whole. The GSA is open to discuss any concerns, ideas or initiatives that faculty member and the campus community may have.

Mery Mendoza
President, Graduate Students' Association

AGENDA ITEM NO: 10.1

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: Susan Detmer; Chair, Academic Programs Committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Admissions Qualifications Change – Bachelor of Commerce (B.Comm.) programs**

DECISION REQUESTED:

It is recommended:
That Council approve the proposed changes to the admissions qualifications for the Bachelor of Commerce (B.Comm.) programs, effective the 2021-22 admissions cycle

PURPOSE:
Changes to admissions qualifications require approval by University Council and confirmation by University Senate.

CONTEXT AND BACKGROUND:

The Edwards School of Business proposes changes to its admissions qualifications to allow students who are not meeting the mathematics requirement, but who have the required minimum admissions average, to apply directly to the Edwards School of Business with a deficiency in mathematics that will need to be cleared before the second year of study. This change will allow students to complete Math 102.3 during their first year as a student in a B.Comm. program, instead of having to register first in the College of Arts and Science and then transfer following completion of the math courses.

This change is proposed to allow students who do not have access to the required high school math programs in their home community, such as rural and Northern communities, to enter a B.Comm. program without the math requirement being an impediment. It also will benefit students from out-of-province or out-of-country whose high school math requirements may not align with those here.

If students are not able to successfully clear the math deficiency in their first year, they would not be permitted to continue to the second year of a B.Comm. program, but may have the option of transferring into another program.

FURTHER ACTION REQUIRED:
University Senate will be asked to confirm this decision at its April 25, 2020 meeting.

ATTACHMENTS:

1. **Edwards School of Business Revised Entrance Requirements**

EDWARDS
SCHOOL OF BUSINESS
UNIVERSITY OF SASKATCHEWAN

The Edwards School of Business develops business professionals to build nations.

MEMORANDUM

TO: **Academic Programs Committee**

FROM: **Noreen Mahoney,**
Associate Dean, Students and Degree Programs
Edwards School of Business

DATE: **October 17, 2019**

RE: **Edwards School of Business Revised Entrance Requirements**

The following items were approved at the May 14, 2019 meeting of the Edwards School of Business Faculty Council.

1.1 Motion: To amend the Edwards Admission requirements to allow consideration of B.Comm. applicants with a mathematics deficiency. Students accepted with a mathematics deficiency must clear it before beginning the second year of study.

Rationale:

- Students who are currently not meeting the mathematics requirement (but who are meeting the average requirement) are having to start their studies in another college and meet the Edwards admission average while attempting to clear a math deficiency.
- Students from select International schools who would otherwise be admissible are not meeting the math prerequisite.
- Students who pursued alternative mathematics options in high school would be afforded an opportunity to begin their post-secondary studies while clearing the deficiency.

College: Edwards School of Business

Program(s): Bachelor of Commerce (B.Comm.)

Admission Qualifications:

- **Regular Admission – High School (less than 18 credit units of transferable post-secondary):**
  - Grade 12 standing or equivalent.
  - Foundations of Mathematics 30 or Pre-Calculus 30 (recommended); or
    - MATH 102.3 at the university level

- Minimum average of 70% on five subject high school average (see Admissions calculation and average (April 2004).
- Proficiency in English.

** Applicants may be admitted with a mathematics deficiency that must be cleared before second year of study.*

- **Regular Admission – post-secondary (18 credit units or more transferable post-secondary):**
  - Minimum average of 60% on 18 or more transferable credit units from a recognized and/or accredited post-secondary institution; average calculated on all attempted courses which are transferable to the University of Saskatchewan.
  - Foundations of Mathematics 30 or Pre-Calculus 30 (recommended); or
    - MATH 102.3 at the university level; or
    - MATH 110.3 (or its equivalent) at the university level; or
    - MATH 104.3 (min. grade of 65%) at the university level if completed prior to September 2019
  - Proficiency in English.

** Applicants may be admitted with a mathematics deficiency that must be cleared before second year of study.*

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

College: Edwards School of Business

Program(s): Bachelor of Commerce (B.Comm.)

Admission Qualifications:

- **Regular Admission – High School (less than 18 credit units of transferable post-secondary):**
  - Grade 12 standing or equivalent.
  - Foundations of Mathematics 30 or Pre-Calculus 30 (recommended); or
    - MATH 102.3 at the university level
  - Minimum average of 70% on five subject high school average (see Admissions calculation and average (April 2004).
  - Proficiency in English.

** Applicants may be admitted with a mathematics deficiency that must be cleared before second year of study.*

- **Regular Admission – post-secondary (18 credit units or more transferable post-secondary):**
  - Minimum average of 60% on 18 or more transferable credit units from a recognized and/or accredited post-secondary institution; average calculated on all attempted courses which are transferable to the University of Saskatchewan.
  - Foundations of Mathematics 30 or Pre-Calculus 30 (recommended); or
    - -MATH 102.3 at the university level; or
    - MATH 110.3 (or its equivalent) at the university level; or
    - Math 104.3 (min. grade of 65%) at the university level if completed prior to September 2019
  - Proficiency in English.

** Applicants may be admitted with a mathematics deficiency that must be cleared before second year of study.*

- **Special Mature Admission:**
  - Proof of age (21 or older).
  - A written submission demonstrating capacity to undertake university-level studies.
  - Less than 18 credit units of transferable post-secondary coursework.
  - Transcripts of any secondary or post-secondary coursework.
  - Resume.
  - Proficiency in English.

Selection Criteria:

- Regular Admission: Academic average – 100% weighting
  - Average is calculated using five high school subjects or on 18 or more transferable credit units At the discretion of the College, enrolment numbers will be determined in consultation with Admissions.
- Special Mature Admission: Special admission package – 100% weighting

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UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

- Applicants are admitted at the discretion of the college. The admission decision is based on the applicant's written submission and demonstrated academic potential.

Categories of Applicants:

Regular Admission

Admission is based on successful completion of secondary level standing with a minimum overall average of 70% in the required subjects; or admission is based on the successful completion of at least 18 credit units of transferable university-level coursework at a recognized and/or accredited post-secondary institution, with an average of at least 60%.

Special (Mature) Admission

Special (Mature) Admission is available to applicants who do not qualify for Regular Admission. Applicants must be 21 years of age or older by the first day of classes, be entering their first-year of study, and have successfully completed less than 18 credit units of transferable university-level coursework. Applicants must submit a special admission package including proof of age, a written request for Special (Mature) Admission that demonstrates reasonable probability of academic success and a summary of work and personal experience since leaving school. Academic transcripts must be submitted if any Grade 12 or post-secondary courses have been completed.

Home based Learners

Applicants should submit a home-based transcript with details of all Grade 11 and Grade 12 courses completed. An interview will be required. A portfolio may be submitted but is not required. Independent third party examinations such as SAT or ACT may be considered. This is for students who have been home-schooled and demonstrate a reasonable probability of academic success.

Aboriginal Equity Admission

Aboriginal applicants must meet Edwards School of Business minimum admission qualifications identified for regular admission. Applicants wishing to apply in this category must self-declare on the application for admission. Applicants must provide proof of Aboriginal ancestry by the published document deadline in one of the following ways:

- Indian Status or Treaty Card
- Metis Membership Card
- Nunavut Trust Service Card
- Inuit roll number

Dean's Signature: _____

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

Date: _____

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

College: Edwards School of Business

Program(s): Aboriginal Business Administration Certificate (ABAC)

Admission Qualifications:

- **Regular Admission – High School (less than 18 credit units of transferable post-secondary):**
  - First Nations, Métis or Inuit ancestry.
  - Grade 12 standing or equivalent.
  - Foundations of Mathematics 20 or Pre-Calculus 20
  - Successful completion of Foundations of Mathematics 30 or Pre-Calculus 30 preferred.
  - Minimum average of 70% on five subject high school average (see Admissions calculation and average (April 2004).
  - Proficiency in English.

- **Regular Admission – post-secondary (18 credit units or more transferable post-secondary):**
  - First Nations, Métis or Inuit ancestry.
  - Grade 12 standing or equivalent.
  - Foundations of Mathematics 20 or Pre-Calculus 20
  - Successful completion of Foundations of Mathematics 30 or Pre-Calculus 30 preferred.
  - Minimum average of 60% on 18 or more transferable credit units from a recognized and/or accredited post-secondary institution.
  - Proficiency in English.

- **Special Mature Admission:**
  - First Nations, Métis or Inuit ancestry.
  - Proof of age (21 or older).
  - A written submission demonstrating capacity to undertake university-level studies.
  - Less than 18 credit units of transferable post-secondary coursework.
  - Transcripts of any secondary or post-secondary coursework.
  - Copies of supporting documents covering any non-credit programs completed.
  - Resume.
  - Proficiency in English.

Selection Criteria:

- Regular Admission: Academic average – 100% weighting
  - Average is calculated using five high school subjects or on 18 or more transferable credit units.
- Special (Mature) Admission: Special admission package – 100% weighting
  - Applicants are admitted at the discretion of the college. The admission decision is based on the applicant's written submission and demonstrated academic potential.

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

Categories of Applicants:

Regular Admission

Admission is based on successful completion of secondary level standing with a minimum overall average of 70% in the required subjects; or admission is based on the successful completion of at least 18 credit units of transferable university-level coursework from a recognized and/or accredited post-secondary institution, with an average of at least 60%.

Special (Mature) Admission

Special (Mature) Admission is available to applicants who do not qualify for Regular Admission. Applicants must be 21 years of age or older by the first day of classes, be entering their first-year of study, and have successfully completed less than 18 credit units of transferable university-level coursework. Applicants must submit a special admission package including proof of age, a written request for Special (Mature) Admission that demonstrates reasonable probability of academic success and a summary of work and personal experience since leaving school. Academic transcripts must be submitted if any Grade 12 or post-secondary courses have been completed.

Dean's Signature: _____

Date: _____

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

College: Edwards School of Business

Program(s): Certificate in Business; Certificate in Entrepreneurship

Admission Qualifications:

- **Regular Admission – High School (less than 18 credit units of transferable post-secondary):**
  - Grade 12 standing or equivalent.
  - Successful completion of Foundations of Mathematics 30 or Pre-Calculus 30 recommended, but not required.
  - Minimum average of 70% on five subject high school average (see Admissions calculation and average (April 2004).
  - Proficiency in English.

- **Regular Admission – post-secondary (18 credit units or more transferable post-secondary):**
  - Successful completion of Foundations of Mathematics 30 or Pre-Calculus 30 (or university-level equivalent) is recommended, but not required.
  - Meet the minimum university transfer average of 60% on 18 or more transferable credit units from a recognized and/or accredited post-secondary institution.
  - Proficiency in English.

- **Special Mature Admission:**
  - Proof of age (21 or older).
  - A written submission demonstrating capacity to undertake university-level studies.
  - Less than 18 credit units of transferable post-secondary coursework.
  - Transcripts of any secondary or post-secondary coursework.
  - Copies of supporting documents covering any non-credit programs completed.
  - Resume.
  - Proficiency in English.

Selection Criteria:

- Regular Admission: Academic average – 100% weighting
  - Average is calculated using five high school subjects or on 18 or more transferable credit units.
- Special (Mature) Admission: Special admission package – 100% weighting
  - Applicants are admitted at the discretion of the college. The admission decision is based on the applicant's written submission and demonstrated academic potential.

Categories of Applicants:

Regular Admission

Admission is based on successful completion of secondary level standing with a minimum overall average of 70% in the required subjects; or admission is based on the successful completion of at least 18 credit units of transferable university-level coursework from a recognized and/or accredited post-secondary institution, with an average of at least 60%.

UNIVERSITY OF SASKATCHEWAN

2020-21 Admission Requirements

Special (Mature) Admission

Special (Mature) Admission is available to applicants who do not qualify for Regular Admission. Applicants must be 21 years of age or older by the first day of classes, be entering their first-year of study, and have successfully completed less than 18 credit units of transferable university-level coursework. Applicants must submit a special admission package including proof of age, a written request for Special (Mature) Admission that demonstrates reasonable probability of academic success and a summary of work and personal experience since leaving school. Academic transcripts must be submitted if any Grade 12 or post-secondary courses have been completed.

Dean's Signature: _____

Date: _____

AGENDA ITEM NO: 10.2

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: Susan Detmer; Chair, Academic Programs Committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Degree-level Early Childhood Education Certificate**

DECISION REQUESTED:

It is recommended:
That Council approve the degree-level Early Childhood Education Certificate in the College of Education, effective May 2020.

PURPOSE:

University Council is responsible for approving new degree-level programs, including new degree-level certificates.

CONTEXT AND BACKGROUND:

The Saskatchewan Ministry of Education and the Saskatchewan Professional Regulatory Board (SPTRB) approached the College of Education to develop programs that support early childhood education in the province. Given the different ways that young children learn and the ongoing growth in early development, the need for training options was identified.

This certificate program contains five courses that focus on the necessary aspects of early learning and included culturally relevant sources and topics that respond to Indigenous and newcomer cultures. These courses already exist in the College of Education, so no new courses are being created.

This program is aimed at teachers who are currently in practice, although it can be taken concurrently with a Bachelor of Education (B.Ed.) program. Either being enrolled in a B.Ed. program or holding a B.Ed. are required for admission.

This certificate program will work towards Advanced Qualifications Certificates (AQC) for in-service teachers, which allow them to move up a class level and receive a salary increase.

FURTHER ACTION REQUIRED:
Tuition associated with this proposed program will be approved as per the Tuition and Fees Authorization Policy.

ATTACHMENTS:

1. **Proposal for Academic or Curricular Change – Early Childhood Education Certificate**

UNIVERSITY OF SASKATCHEWAN

Proposal for Academic or Curricular Change

PROPOSAL IDENTIFICATION

Title of proposal: Early Childhood Education (ECE) Certificate

Degree(s): Certificate, not degree

Field(s) of Specialization: Early Years Childhood Education

Level(s) of Concentration: N/A

Option(s): N/A

Degree College: Education

Contact person(s) (name, telephone, fax, e-mail): Dawn Wallin, 966-7564, dawn.wallin@usask.ca

Proposed date of implementation: September, 2020

Proposal Document

Please provide information which covers the following sub topics. The length and detail should reflect the scale or importance of the program or revision. Documents prepared for your college may be used. Please expand this document as needed to embrace all your information.

1. Academic justification:

The College of Education has been refining its degree and certificate program offerings to become more responsive to the needs of practicing professionals in school systems whose pedagogical and assessment prowess must be differentiated to serve a growing diversity of learners. The impetus for this new program stems from a practical need to target curricula development, pedagogy and assessment knowledge of teacher candidates and/or in-service teachers who teach early learners from pre-Kindergarten to Grade 3. Research and support from the Council of Ministers of Education Canada (CMEC) has found that setting a strong foundation of learning sets students up for success in subsequent years of schooling (CMEC, 2010; OECD, 2018; Purpura & Schmitt, 2019). Young children learn differently than other children because of their early stages in cognitive and social development; therefore, the pedagogical and assessment skills, knowledge and dispositions of teachers must reflect this difference. This certificate program contains five, three-credit-unit courses that focus on necessary aspects of early learning: (a) philosophical, theoretical, and pedagogical perspectives for teaching early learners; (b) play-relationship learning for holistic child development; (c) parental engagement in early learning; (d) early years pedagogy, and; (e) assessment for early learners. These courses have intentionally been developed to include culturally relevant sources, resources, and topics that respond to Indigenous and newcomer cultures.

In its Education Sector Strategic Plan (ESSP), the Saskatchewan Ministry of Education (2016) included early childhood education as a strategic focus for the province. In recognition that a strong early years strategy has implications for improved achievement, credit attainment, and graduation rates, the Ministry has emphasized the creation of Early Childhood Engagement Networks, targets for reading, writing, and numeracy, and a direct goal that "90% of students leaving Kindergarten are ready for learning in the primary grades" (p. 1). In addition, Indigenous Services Canada (ISC) has announced that it is rolling out full day, every day Kindergarten for four-year-olds and five-year-olds for on-reserve programming. All of these students require teachers who can meet their learning needs in ways that are developmentally and culturally appropriate. This certificate responds to the desire of the Ministry of Education, the federal initiative for on-reserve programming, and education partners to be more intentional about teacher preparation such that teachers who are hired to teach in early years programs are better equipped to address early learner needs.

Given the volume of early years teachers in the province, members of the Early Years Branch of the Ministry of Saskatchewan, and members of the Saskatchewan Professional Regulatory Board (SPTRB) which is the certifying body of teachers in Saskatchewan, approached the College of Education at the University of Saskatchewan and the Faculty of Education at the University of Regina to support early childhood education in the province. One of the levers by which additional teacher training is rewarded in Saskatchewan is through the completion of an Advanced Qualification Certificate (AQC) supported by the SPTRB. Completion of an AQC leads to an increase in the class level into which teachers are placed, as well as an increase in salary. We were able to partner with the Ministry of Saskatchewan for a secondment of a member of the Early Years Branch to support the development of the courses for this university certificate program that will be applied towards an AQC for in-service teachers.

Student Demand

During the 2018-2019 school year, there were 57,418 students enrolled in K-Grade 3 programs in public schools in Saskatchewan (Saskatchewan Education, 2018a), with overall school enrolments increasing steadily since 2014 (Saskatchewan Education, 2018b). This number does not include the growing number of early years students in roughly 80 First Nations schools, for which enrolment statistics are not publicly available. In addition, Indigenous Services Canada (ISC) has announced that it is rolling out full day, every day Kindergarten for four-year-olds and five-year-olds for on-reserve programming. Staff will be needed for these programs, and these courses will be a resource, particularly if there is a desire to offer these courses in partnership with a First Nations Educational Authority. To that end, there is a large student market for specialized early childhood teacher education in Saskatchewan alone. It also is the case that since the provincial ESSP was rolled out, the College of Education has been lobbied consistently by educational partners and in-service teachers for programming that meets this need. Given the immediate and continual needs for early years teachers in this province and beyond, the sustainability of a program such as this is assured.

Fit With College and University Plan, Vision, Mission, Values

The certificate program aligns with the *College of Education Strategic Plan 2025* that advocates for "Excellence in Teaching and Learning", and elevating "Respect, Reputation and Engagement" (p. 2). In the first area, the certificate helps the college to actualize its goals to "enrich teaching area expertise through targeted programming and collaborative partnerships," to "prioritize and invest in the creation of local, national, and international teaching and learning," and to "inspire Indigeneity in teaching and learning" (p. 2) It aligns directly with the strategic initiative for this area in its focus on developing "highly sought Advanced Qualification Certificates (AQCs) in priority areas" (p. 20).

Through the secondment of the member of the Early Years Branch of the Saskatchewan Ministry of Education, and inclusion of early years teachers in the creation and design of the syllabi, the College has supported its goal to "grow a national and global reputation as a pre-eminent institution for teacher education and graduate programming" (p. 2). The certificate will certainly help us to "celebrate stories of success and impact" as well as "enhance structures that support the outward-focused work of teaching and learning in education" (p. 2). It is likely that the certificate will complement the development of the Centre for the Scholarship of Teaching and Learning that is a key feature of the College Strategic Plan (p. 8), and provide for growing research opportunities for faculty interested in early childhood teaching and learning (p. 11). It will help us realize the strategic initiative of expanding "distinct and distinguished alumni engagement opportunities" (p. 24) by providing teaching opportunities for qualified alumni with early childhood expertise who can share their knowledge and experiences with students enrolled in the certificate program. The college has realized the strategic intent to "seek advisement through broad consultation and

engagement" (p. 25) by working with the Early Years Branch of the Ministry of Saskatchewan as well as a number of system leaders and teachers in the design of the five courses. Finally, the creation of the certificate helps the College realize its strategic intent to "enhance structures that support the outward-focused work of teaching and learning in education" (p. 26) by opening up opportunities that support the needs of educational partners who desire professional learning opportunities that help teachers, and school systems meet the needs of early childhood education.

In the design of the certificate program, we are hoping to align the work of the College of Education with the goal of the *University Plan 2025* to be the "University that the World Needs" (p. 1). Just as the *University Plan 2025* advocates for "courageous curiousity," (p. 2), the certificate courses focus on the innate curiousity of early learners, and supports teachers in their goals of harnessing that curiousity to improve learning outcomes. The courses are built intentionally with topics, resources, and discussions around the needs of Saskatchewan's growingly diverse communities, with discussions centring on how to be culturally and developmentally responsive to young learners and their families. We have engaged in "boundless collaboration" (p. 2) by responding to the requests of our educational partners for this program, and by including them in the design and future delivery of the courses. As a consequence, we have strengthened our partnerships with government, school systems, and alumni who will be more inclined to support our future efforts. The intent of the certificate is to support improved circumstances for communities and schools by building the capacity of local early childhood teachers to respond appropriately to early learner needs through research-informed practice, pedagogical growth, and philosophical understanding. To that end, we hope to "inspire communities" (p. 2) as teachers work for change in local schools.

Relationship to Other Programs

The courses of this program are designed to complement the latest change to the Bachelor of Education degree to include an Early Childhood Concentration. Teacher candidates in the Bachelor of Education degree would be allowed to enrol in the Early Childhood Certificate program concurrently, or they could enrol in one or more of the classes for undergraduate elective credit (though they cannot gain credit for a class in both programs). None of the classes in the certificate program are equivalents to any courses offered in the Early Childhood Concentration of the Bachelor of Education degree. The Certificate is primarily targeted to in-service teachers who desire further professional growth opportunities to support their pedagogical and assessment practices. There currently exists an option to focus on Early Years Education in the Masters of Education program at the College of Education. None of the certificate courses are considered to be equivalent to graduate level work that is more research- and theoretically-intensive. The courses for the certificate program are focused primarily on teaching and learning practice, informed by research. They are also designed with an inquiry focus that allows students enrolled in the courses to focus on problems of practice in their own early learning contexts. It is hoped that those students who enrol in the certificate program will be enticed to bridge their learning into a Masters degree. Similar to that of the undergraduate opportunity, students in the Masters program may take some of the courses for elective credit, but cannot attain credit for courses in both programs.

The University of Regina (n.d.) has recently approved a *Certificate in Early Childhood Studies for the Helping Professions* that meets the SPTRB requirements for an AQC. This is a 15-credit unit program that "offers teachers, educators and those individuals who are employed in the helping professions the opportunity to advance their professional learning in early childhood development, as well as, play, the arts, expressive art therapies and trauma informed practice and early literacies." Although there is some overlap in topics of the courses, the University of Regina program includes only one core course that focuses on play-based learning. There exist two elective courses dedicated to K-5 teaching contexts, and two elective choices from a wide variety of courses that do not all directly focus on early learning. The University of Saskatchewan program is much more targeted to early learning teacher education in K-3 contexts. Given the number of teachers in the province, and the tendency for teachers to choose programs by location closest to home, having two certificate programs in the province will not harm what would likely be the market area of this certificate, which tends to extend latitudinally from Davidson, Saskatchewan, to northern Saskatchewan. In fact, the Ministry has advocated for programs to be housed in both universities to meet provincial need, and offered to second a member of the Early Years Branch to help design the U of S program.

2. Admissions

Students must be concurrently enrolled in the Bachelor of Education degree at the University of Saskatchewan, or already hold a Bachelor of Education degree. Special permission to enrol in the certificate program may be granted by the Department of Curriculum Studies.

3. Description of the program

The certificate program is designed as a five course, 15 credit-unit program. The courses that comprise the certificate include the following:

ECUR 483.3: Trends and Issues in the Early Years
Course Description: In this course, we will examine philosophical, theoretical, and pedagogical perspectives that underpin historical and contemporary constructivist approaches in the field of Early Childhood Education, Prekindergarten to Grade 3. With this background, we will explore locally-based, provincial, national, and global trends and issues. We will enhance our ability as early years professionals to critically interrogate our knowledge, beliefs, and assumptions about a topic and develop an articulate rationale for our position. We will strengthen our facility to impact early childhood education in intentional and responsive ways. Attention will be given to First Nations, Métis, and Inuit perspectives and ways of knowing, and culturally responsive practices that integrate the out of school experiences of linguistically and culturally diverse children and families into classroom learning.

ECUR 484.3: The "Play Development" Relationship: Curricular Commonplaces in the Early Years
Course Description: The early years are a precious time, full of wonder, curiosity, and rapid growth and development. To honour this unique time in children's lives, we will explore the relevance and importance of play, imagination, and creativity to early childhood development, situated within the curricular commonplaces of child, teacher, curriculum and pedagogy, and milieus. As we deepen our understanding of the "play-development" relationship unfolding in children, birth to age eight, we will examine how the principles of early learning underpin children's holistic development. Attention will be given to First Nations, Métis, and Inuit perspectives and ways of knowing, and culturally responsive practices that integrate the out of school experiences of linguistically and culturally diverse children and families into classroom learning.

ECUR 485.3: Parent Engagement in the Early Years
Course Description: In this course, we will use Schwab's conceptualization of the curricular commonplaces of child, teacher, milieus, and curriculum to explore the value of relationships within an early childhood context. Through interrogating our images of child, parent, and teacher, we will make conscious our beliefs and assumptions about all as capable learners and teachers. We will explore practices that facilitate reciprocal interactions on and off the school landscape, and within community contexts. Attention will be given to First Nations, Métis, and Inuit perspectives and ways of knowing, and linguistic and cultural diversity.

ECUR 486.3: Early Years Pedagogy: Principles and Practices
Course Description: In this course, our exploration of inquiry and play-based pedagogy, Prekindergarten to Grade 3, will be situated in the four Saskatchewan Ministry of Education principles of early learning: children as competent and capable, stimulating and dynamic environments, strong positive relationships, and holistic learning. We will examine these early years pedagogical approaches through philosophical and theoretical lenses, as well as through considerations of the enactment of inquiry and play in practice.
In addressing developmentally appropriate curricular contexts and learning environments, we will explore intelligent materials, rhythms and interactions of children, role of the educator, teacher/parent knowledge, allocation of time, and the complex interplay of these variables. Attention will be given to First Nations, Métis, and Inuit perspectives and ways of knowing, and culturally responsive practices that integrate the out of school experiences of linguistically and culturally diverse children and families into classroom learning.

ECUR 487.3: Authentic Assessment Practices: Teaching and Learning in the Early Years
Course Description: In this course, you will enhance your professional assessment literacy by critically examining authentic assessment practices for the purposes of teaching and learning in early childhood settings. Together we will explore assumptions, biases, and beliefs influencing assessment selection with awareness and attention to pedagogies for teaching and learning, and societal values and discourses.
Using an inquiry process, you will learn about pedagogical documentation through your own engagement with it. Self-selected learning communities will inquire into a topic relevant to authentic assessment literacy and teaching and learning in the early years, investigate current literature and practices, discuss implications for student and program planning, and reflect on and make visible your learning journey. Attention will be given to First Nations, Métis, and Inuit perspectives and ways of knowing, and culturally responsive practices that integrate the out of school experiences of linguistically and culturally diverse children and families into classroom learning.
Curricular Objectives

The curricular goals address essential philosophical, theoretical, and pedagogical understandings about early childhood education, Prekindergarten to Grade 3. Course participants will:

(i) explore, affirm, and/or challenge beliefs and assumptions about early childhood education and how young children learn;
(ii) develop familiarity with and use current scholarly and professional resources to inform philosophical, theoretical and pedagogical underpinnings;
(iii) develop a deeper understanding and application of the four principles of early learning as outlined in Saskatchewan Ministry of Education curricular documents (2008, p. 5; 2009, p.2):
    - holding an image of the child as competent and capable,
    - viewing the environment as a third teacher,
    - developing strong relationships by situating the learning of young children in the context of family and community, and
    - honouring children's learning as simultaneously intellectual, social-emotional, physical, and spiritual;
(iv) strengthen pedagogical practice through examining and applying foundational elements of high-quality early learning programs and by responding to young children's interests and ways of being and knowing;
(v) differentiate practice through knowledge of children and their milieus:
    - linguistic and cultural responsiveness,
    - First Nations, Métis, and Inuit perspectives and ways of knowing, and
    - engagement of parent, family, and community;
(vi) attend to *Essential Learning Experiences, Play and Exploration*, and K-3 *Saskatchewan Curriculum* as well as Saskatchewan Ministry of Education resource documents to guide critical analysis and reflection;
(vii) learn ways to create a community of learners that promotes agency, voice, and choice; and
(viii) nurture the sense of importance, value, and honour of being an early childhood educator within the profession.

Course participants will explore each outcome through an integrated demonstration of the Saskatchewan Teacher Education, Classification, and Certification (TECC) goals and competencies: professional, knowledge, instructional, and curricular. During course discussions, participants are invited to share their lived classroom and school experiences. Their input will contribute and help shape how curricular outcomes are realized.

The curricular outcomes are threaded throughout all five courses. They are explored in multiple contexts (for example: local, provincial, national, and global) and through exploration of course topics, current trends and issues, assigned readings, and reflective assignments. All curricular outcomes are explored alongside the knowledge and experiences the course participants bring to each class.

In addition to learning outcomes, and in collaboration with school division leaders and teachers, a list of principles for course design was created. These principles were considered when determining course outcomes, readings, assignments, and course topic outlines. The five principles are outlined below with examples for each.

(i) Sustained engagement – use common early childhood education language and terminology in all courses, design course flow to enhance and reflect upon lived experiences, set up opportunities for online conversations, and partner with other College and community groups (ESS, ITEP, SUNTEP, SWITCH, Crisis Nursery Centre, Nutrien Wonderhub, and so on);
(ii) learning along the way – design time and space within classes to promote the development of strong connections to one another, offer assignment choice with options to represent thinking and learning in flexible ways, value process over product, teach responsively, and support on-going formation of a reflective and professional teacher identity;
(iii) experiencing theory and a lived curriculum – model relationship building, model an emergent curriculum and constructivist approaches to teaching and learning, include time for the examination and re-examination of beliefs and assumptions, make regular use of curricular documents, encourage collaboration, provide authentic experiences, and build in time for discussion and reflection following each experience;

(iv) engaging with parents and families – include time for reflection on how their family influenced their learning, embed parent engagement practices within each course, consider FNMI ways of knowing, and promote cultural and linguistically responsive practices; and
(v) investing personally – build a community of support and trust in each course, model, support, and provide opportunities for risk-taking, and model, support, and provide time to share personal experiences.

In all courses, an experiential and learning inquiry approach is taken as a way of modelling and living out early learning principles and practices.

Modes of Delivery

The courses will typically be offered in the evenings, on weekends, or during the summer to accommodate the schedule of in-service teachers. It is likely the courses will be offered face-to- face (F2F) to begin, and then be developed to be partially or fully on-line. After an initial meeting with staff from the Distance Education Unit (DEU), the course developers see possibilities for a blended learning approach to all courses. This means that a course could have some F2F sessions and some online components. One example is offering a pre and post on-line seminar with F2F sessions in between; and another example is to begin with a F2F meeting with following on-line sessions. There are many other possibilities. In a blended learning format, between 30-70% of the activity is online and is determined by the instructor. Staff from DEU indicated there is support for instructors to work out the on-line components.

Given the focus on the provincial ESSP on early childhood learning, and the federal investment from Indigenous Services Canada for full day, every day Kindergarten for on-reserve programming, there is likely to be increased interest for online coursework that could extend beyond Saskatchewan.

Curriculum Mapping

Foundational elements of a high-quality early learning program are addressed and organized according to the four specified course areas required by the SPTRB for the Additional Qualifications Certificate (AQC) in Early Childhood Education. The areas are: (i) child development – 3 credit-hours, (ii) early learning pedagogy – 6 credit-hours, (iii) relationships – 3 credit-hours, and (iv) assessment literacy – 3 credit-hours. These areas enable educators to enhance their foundational knowledge base and support educators with a strong understanding of early childhood education across the province.

Course developers looked at the provincial context, conducted a jurisdictional scan of Canadian universities and post-secondary institutions offering early childhood education programs, and explored existing courses within the College of Education that might serve as available offerings that are complementary to these courses. Working with partner school division leaders and teachers, the curricular concepts were mapped out for each of the five courses. Due to concepts reoccurring within multiple courses, a primary and secondary list was created for each course. In this way, there is a holistic sense to the offerings and some concepts are revisited through various lenses without an overlapping in-depth study for any one concept.

To ensure programmatic cohesion, course developers worked as a team to develop the course descriptions and outcomes for all five courses. At this stage, input from partner teachers was invited again, this time from teams that were formulated for each course. Each team provided suggested assignments and readings. During this time, course developers also gathered input from selected faculty who have an interest and/or expertise in one or more of the focus topic areas within the courses. Before courses were individually drafted, the assignments were mapped out to ensure there is breadth and depth across the five courses and to avoid redundancy.

Opportunities for Synthesis and Problem-Solving

The certificate in Early Childhood Education aims to bring together the experiences of early childhood educators and current and growing research and scholarly literature in the field of early childhood education. The courses have been developed in consideration of the knowledge and experiences that participants bring with them and with an openness to their interests, needs, and areas they want to explore/renew. A selection of academic articles and authentic experiences are offered to inspire new ways of being alongside children and their families in early childhood contexts, Prekindergarten to Grade 3. Through debriefing readings and experiences together in conversation, through the process of individual and group assignments, and through processes of reflective practice, teachers will deepen/shift their philosophical and pedagogical stance.

The courses aim to reflect early learning principles and pedagogy. Multiple entry points are available as an inclusionary practice for teachers with varied experiences and interests and who are from diverse contexts. Assignments are mostly open-ended and course participants are invited to explore creative ways to represent their thinking and learning. After completing the courses, participants will be better prepared with a strong early childhood knowledge base to respond to children in early learning program and classrooms, particularly Prekindergarten – Grade 3.

Breadth of Program
In collaboration with partner school division leaders and teachers, the vision for early learning programming at the College of Education was created. The program is designed to inspire early years teachers to:

- examine their beliefs and assumptions in relation to the curricular commonplaces of student, teacher, subject matter, and milieus (Schwab, 1973);
- hold a holistic image of the child as strong, capable, and curious;
- develop a philosophy and pedagogy reflective of current early childhood education theory and practice;
- walk alongside children, parents, families, and communities, in ways that honor their identity, worldview, knowledge, and strengths;
- co-construct inspiring indoor, outdoor, and place-based learning spaces that serve as a third teacher; and
- engage as a reflective and professional educator.

As stated earlier, a Canadian jurisdictional scan was conducted and input was invited and obtained from faculty members and community individuals who gave direction, particularly in the areas of FNMI perspectives and culturally and linguistically appropriate practice. In the area of early learning pedagogy, two courses are developed (Principles and Practices; Trends and Issues) with the intent that participants will bring their own interests, wonders, and experiences to the classes and with a structure that brings in current and relevant ideas from the field of early learning. The assessment literacy course is developed with an inquiry approach. All courses are created with philosophical, theoretical, and pedagogical intentions and with authentic experiences to touch both heart and mind of the course participants.

Addressing Goals of the *Learning Charter*
The program is strongly situated within the context of the principles of early learning as defined by Saskatchewan curricular documents and the learning goals of the university *Learning Charter*. Both documents are foundational to the development of the courses and are complementary to one another. As in early learning programs, the foundational aspects of the Early Childhood Certificate Program are written with the following in mind:

- viewing teachers as capable and competent;
- establishing a rich and dynamic learning environment;
- using a holistic lens – to nourish all aspects of the teaching profession; and
- developing strong relationships (between instructors and participants, between participants, and with people in the field).

Given the course focus on inquiry and respect for the diversity of children and families as capable knowers, the courses align with the *Learning Charter's* focus on the *Pursuit of Truth and Understanding*. The courses critique and develop teachers' understandings of the image of children and families, and ask them to be open to different ways of knowing and learning with a clear focus on life-long learning and inquiry. The specialized body of knowledge around which the courses have been designed foster the *Pursuit of Knowledges* goal of the *Learning Charter*, and help teachers better respond to the needs of early learners and their families. The assignments for the courses are strongly embedded in application of ideas, and working directly with children and families as teachers refine their understanding of early childhood education. There is a strong focus on the *Pursuit of Integrity and* Respect that runs through these courses, as they have been designed deliberately to focus on diversity, Indigenous perspectives, and newcomer family needs. Working with young children necessitates that teachers learn how to model kindness and respect, and that they think through the moral and ethical repercussions of their actions in order to engage in reciprocal relationships in ethical and culturally appropriate ways. This leads into the emphasis on developing teacher *Skills and Practices* in communication, and collecting and using information or assessment practices in culturally appropriate and responsive ways. There is also an emphasis in each of the courses on inquiry learning and play-based learning as teachers learn to foster children's innate curiousity to better understand their

world. Finally, *Individual and Community Pursuits* are achieved in the goal of the program to improve teacher practice for the betterment of self, local school communities, and our national interests in reconciliation and working with a growing diversity in newcomer communities. The intent of the program is to offer teachers a means of understanding self, professionalism, and their responsibility to work authentically and meaningfully with young learners and families to build healthy communities and to create stronger foundations for future learning.

Admissions
As noted in the Admissions requirements, students can enter this program if they are currently enrolled in the Bachelor of Education program, or if they hold a Bachelor of Education degree. They may also be allowed to enrol with special permission from the Department Head of Curriculum Studies.

Success
The program will be deemed successful when courses are enrolled at a capacity that allows them to be self-sustaining, and when students complete the program and begin to acquire Advanced Qualification Certificates from the Saskatchewan Professional Regulatory Board (SPTRB). The cost of acquiring the AQC is at student expense.

4. Consultation

The courses of this program are designed to complement the latest change to the Bachelor of Education degree to include an Early Childhood Concentration. Teacher candidates in the Bachelor of Education degree would be allowed to enrol in the Early Childhood Certificate program concurrently, or they could enrol in one or more of the classes for undergraduate elective credit (though they cannot gain credit for a class in both programs). None of the classes in the certificate program are equivalents to any courses offered in the Early Childhood Concentration of the Bachelor of Education degree. The Certificate is primarily targeted to in-service teachers who desire further professional growth opportunities to support their pedagogical and assessment practices. There currently exists an option to focus on Early Years Education in the Masters of Education program at the College of Education. None of the certificate courses are considered to be equivalent to graduate level work that is more research- and theoretically-intensive. The courses for the certificate program are focused primarily on teaching and learning practice, informed by research. They are also designed with an inquiry focus that allows students enrolled in the courses to focus on problems of practice in their own early learning contexts. It is hoped that those students who enrol in the certificate program will be enticed to bridge their learning into a Masters degree. Similar to that of the undergraduate opportunity, students in the Masters program may take some of the courses for elective credit, but cannot attain credit for courses in both programs.

No other units were consulted in the design of this program. No courses outside of the College of Education are included in this proposal, and therefore no external consultations were conducted.

University Library Consultation proof is provided in the Library Consult form.

Letters of support from professional bodies that were consulted in the design of this program are provided in the Appendices.

5. Budget

The courses are currently designed to be offered using qualified instructors who are alumni or who have expertise in early childhood education. Given the intention to facilitate learning for rural and northern teachers, there is will likely in time be a move to put the courses online. The budget costs therefore are provided below based on sessional contracts or ASPA instructor contracts. The College has committed to supporting the online course development through its own budget allocations. Tuition for each course will be assessed as a Category 2 tuition, similar to most courses in the College of Education. Administrative support will be provided by the Department of Curriculum and Instruction. Because these courses serve the needs of in-service teachers, they are typically offered in the evening or on weekends, and may in future be offered online. To that end, there will be little trouble finding classroom space to offer the courses. No additional library, laboratory or IT spaces or resources are required. Students will be able to apply for all applicable scholarships offered in the College or the University of Saskatchewan. They will be able to apply for financial aid in ways similar to other certificate programs at the University of Saskatchewan. Since most students will be practicing teachers, they may benefit from local collective agreements that cover all, or a portion, of student tuition fees.

The anticipated enrolment of students in a single course would be 30-40 students. It is anticipated that once admissions is open to the program, the College will have no problem attracting this number given the desire for this program and the lobbying we have faced.

Based on five 3 credit unit classes (classroom based)				
	25 Students	30 Students	35 Students	40 Students
TABBS Revenue	$51,560	$ 61,468	$ 71,379	$ 81,295
Instruction costs based on sessional lecturer	$50,000	$ 50,000	$ 50,000	$ 50,000
Excess	$1,560	$ 1,468	$ 21,379	$ 31,295
Based on five 3 credit unit classes (online based)				
	25 Students	30 Students	35 Students	40 Students
TABBS Revenue	$ 51,560	$ 61,468	$ 71,379	$ 81,295
Instruction costs based on ASPA instructor	$ 43,011	$ 50,214	$ 57,416	$ 50,000
Excess	$ 8,549	$ 11,254	$ 13,963	$ 64,619

College Statement

Please provide here or attach to the online portal, a statement from the College which contains the following:

- Recommendation from the College regarding the program
- Description of the College process used to arrive at that recommendation
- Summary of issues that the College discussed and how they were resolved

Related Documentation

At the online portal, attach any related documentation which is relevant to this proposal to the online portal, such as:

- Excerpts from the College Plan and Planning Parameters
- SPR recommendations
- Relevant sections of the College plan
- Accreditation review recommendations
- Letters of support
- Memos of consultation

It is particularly important for Council committees to know if a curriculum changes are being made in response to College Plans and Planning Parameters, review recommendations or accreditation recommendations.

Consultation Forms At the online portal, attach the following forms, as required

Required for all submissions:

- Consultation with the Registrar form
- Complete Catalogue entry, if proposing a new program, or excerpt of existing of existing program with proposed changes marked in red

Required for all new courses:

- New Course Proposal forms
- Calendar-draft list of new and revised courses

Required if resources needed:

- Information Technology Requirements form
- Library Requirements form
- Physical Resource Requirements form
- Budget Consultation form

Course and Program Catalogue Entry

Early Childhood Education (ECE) Certificate

The Early Childhood Education (ECE) Certificate is offered by the Department of Curriculum Studies, College of Education. This five course, 15 credit-unit certificate program may be taken concurrently with the Bachelor of Education degree or by Bachelor of Education graduates. It offers educators a means of understanding self, professionalism, and their responsibility to work authentically and meaningfully with young learners and families to build healthy communities and to create stronger foundations for future learning. This certificate program is available for in-service teachers who desire further professional growth opportunities to support their pedagogical and assessment practices.

Program Requirements (15 credit units)

- ECUR 483.3: Trends and Issues in the Early Years
- ECUR 484.3: The "Play Development" Relationship: Curricular Commonplaces in the Early Years
- ECUR 485.3: Parent Engagement in the Early Years
- ECUR 486.3: Early Years Pedagogy: Principles and Practices
- ECUR 487.3: Authentic Assessment Practices: Teaching and Learning in the Early Years

UNIVERSITY OF SASKATCHEWAN
College of Education
USASK.CA/EDUCATION

Deans' Office
College of Education
28 Campus Drive

April 15, 2019

Re: Early Childhood Education Certificate Committee of Council

Please accept this letter as notification of College support for the *Early Childhood Education Certificate* that is being proposed with the forwarding of the attached Notice of Intent.

The College of Education is pleased to be able to respond to the need for increased professional learning opportunities for early years teachers in our province and beyond. This certificate program has been advocated for, and supported strongly by, the Saskatchewan Ministry of Education, the Saskatchewan Professional Teachers Regulatory Board, and our educational partners. We believe that this certificate program will enhance the ability of early years teachers in public and First Nations schools to respond to young learners and their families in developmentally and culturally appropriate ways.

The College has designed the certificate program in a manner that will be self-sustaining and that will encourage alumni and our educational partners to collaborate on the development and delivery of this exciting new opportunity.

Sincerely,

Dr. Michelle Prytula
Dean, College of Education

Government of Saskatchewan

Ministry of Education
Deputy Minister
5th Floor, 2220 College Avenue
Regina, Canada S4P 4V9

May 7, 2019

To Whom It May Concern:

On behalf of the Ministry of Education, I am pleased to provide support to the College of Education at the University of Saskatchewan regarding the development of the Early Childhood Education (ECE) Certificate.

The Ministry of Education commends the College of Education for creating this opportunity to provide in-service teachers and other professionals with specialized knowledge in early childhood education to have appropriate knowledge and skills through post-secondary course work.

Research indicates that highly-trained staff are better prepared to respond to the learning and development of children and their families. The College of Education is making a significant contribution in recognizing this importance.

Many educators and professionals across the province will benefit from the opportunity to increase their qualifications through an ECE Certificate that will support understanding of age-appropriate child developmental milestones and pedagogy.

This certificate will assist staff to further their understanding in early learning pedagogy, relationships, parent engagement, assessment literacy, responsive and differentiated instruction and furthering deeper learning about linguistic and culturally-responsive practices.

The Early Years branch of the Ministry of Education offers a variety of programs from community-based organizations such as Family Resource Centres, Early Childhood Intervention Programs (ECIP) and KidsFirst, along with licensed child care, Prekindergarten and Kindergarten programs. The ECE Certificate will provide the early learning sector staff and leadership with specialized knowledge to enhance their work.

. . . 2

I commend the leadership of the College of Education in supporting early childhood education. When young children and their families are supported with strong beginnings, children are more likely to read at grade level and achieve high school graduation success.

Sincerely,

J. Robert Currie

J. Robert Currie
Deputy Minister

SPTRB
Saskatchewan Professional
Teachers Regulatory Board

April 29, 2019

Dear Interested Parties:

This letter is in support of the College of Education's proposal of an Early Childhood Education (ECE) Certificate program.

The number of pre-kindergarten programs in Saskatchewan increases yearly and consequently, so too does the demand for teachers with the knowledge and skills to teach children in their early years.

The Saskatchewan Professional Teachers Regulatory Board commends the College of Education for responding to the demand for Early Years teachers by developing an Early Learning Stream within its Bachelor of Education program. This initiative will provide the province with an ongoing supply of new teachers with expertise in Early Childhood Education.

Specific to the proposed ECE Certificate, we are very much in support of this program. Comprised of five newly developed courses, the ECE Certificate program will provide in-service teachers with an opportunity for continuing professional learning in an area identified as a provincial need by the SPTRB's Teacher Education and Certification Committee (TECC). Furthermore, the ECE certificate will fulfill half of the requirements for the SPTRB's Additional Qualification Certificate (AQC).

AQC's are designed to encourage in-service teachers to pursue continual professional learning in areas of local and provincial need; completion of an AQC typically qualifies a teacher to advance to a higher salary classification.

In summary, the SPTRB supports the College of Education's proposed Early Childhood Education Certificate because it supports an area of provincial need and aligns with one of our strategic priorities – promoting continual professional learning among our registrants.

Please do not hesitate to contact me if you require further information.

Sincerely,

Trevor Smith
Registrar & COO

Treaty Six Education Council

Mailing Address:
PO Box 310
North Battleford, SK S9A 2Y3

Office Address:
1022 102nd Street
North Battleford, SK S9A 1E6

Phone – (306) 446-0315 Fax – (306) 446-0317 Email – reception@tsec.ca Web – http://www.tsec.ca

April 29, 2019

Greetings,

The provincial education sector strategic plan, in place since 2013, includes an outcome regarding the Early Years. One of the data sets tracked within the outcome focuses on the number of trained early years educators working with young learners. Employing educators with the appropriate training to teach young learners provides a better chance for students to be up for a successful education experience. Investment of time, talent and resources in the early years will reap benefits down the road.

The College of Education at the University of Saskatchewan has done tremendous work implementing the Early Learning stream for students interested in serving students in the beginning years of their formal education. More and more students and schools across the province are benefitting from the College's decision to implement the stream.

The College is in the process of developing the Early Childhood Education Certificate Program. I am impressed by the list of courses, offering a wide variety of topics. I am further impressed with each course paying specific attention to culturally responsive practices as well as First Nations, Metis and Inuit perspectives and ways of knowing. As an added bonus, the addition of this option may also provide opportunities for participants to acquire an Additional Qualification Certificate.

Please accept this letter as indication of my full support of the College of Education's effort to create the Early Childhood Education Certificate Program. If you have any questions or require further information, please do not hesitate to contact me by email (pat.bugler@tsec.ca) or by phone (306-441-3444).

Sincerely,

Patrick Bugler
Director of Education, Treaty Six Education Council

cc: Dr. Michelle Prytula, Dean, College of Education, University of Saskatchewan

Saskatoon Public Schools
Inspiring Learning

310 - 21st Street East, Saskatoon SK S7K 1M7
Tel: (306) 683.8200 Fax: (306) 657.3900
saskatoonpublicschools.ca
Barry MacDougall, Director of Education

May 10, 2019

Dr. Michelle Prytula
Dean, College of Education
University of Saskatchewan
3046 - 28 Campus Drive
Saskatoon, Saskatchewan S7N 0X1

Dear Dr. Prytula,

Re: Early Childhood Education (ECE) Certificate

On behalf of Saskatoon Public Schools, please accept this letter of support for the University of Saskatchewan College of Education in their application of the Early Childhood Education Certificate proposal.

Saskatoon Public Schools views the Early Childhood Education Certificate program as a valuable opportunity for educators to engage in professional development and learning. We acknowledge the necessity for continued learning opportunities for educators to deepen their knowledge of early years pedagogy to best serve our youngest learners and their families. An increased investment in early years education is a very wise move indeed! As an organization, we appreciate the planning, consultation process and research undertaken by the College of Education.

Saskatoon Public Schools values our partnership with the College of Education, as we collaborate to provide high-quality programming options for educators to extend their professional learning.

Sincerely,

B. MacDougall

Mr. Barry MacDougall, Director of Education, Saskatoon Public Schools

tat

GREATER SASKATOON CATHOLIC SCHOOLS

GREATER SASKATOON CATHOLIC SCHOOLS
ST. PAUL'S RCSSD #20
420 - 22ND STREET EAST SASKATOON SK S7K 1X3 CANADA
306.659.7000 INFO@GSCS.SK.CA WWW.GSCS.SK.CA

May 10, 2019

To: Whom it may concern

RE: Letter of support for an Early Childhood Education (ECE) Certificate program at the University of Saskatchewan: College of Education

It is with great enthusiasm that I respectfully submit this brief letter of support for an Early Childhood Education (ECE) Certificate program at the University of Saskatchewan. It would require a significant amount of space to adequately review the many reasons why such an opportunity is extremely important. However, given this format, I will limit my comments to the perspective of a provincial school division and why we heartily support this initiative.

Parents, educators, and researchers have known for a long time how foundational the early years are to the healthy development of a person. This knowledge has been reinforced and deepened in more recent years thanks to associated brain-based research as well as research on the social determinants of health. As educators in the pre-kindergarten to Grade 12 system, we realize that, although we become involved near the end of what is considered early years learning, we have an important role to play in supporting our children and families. Our most significant lever in effective early years support is our classroom teacher. Without overstatement, this role is absolutely key to effective early years programming and supports.

As research and knowledge of the early years has improved so, too, has our understanding of effective pedagogy. What in the past may have been considered a fairly simple pedagogical approach and array of strategies has given way now to an understanding of the complexity and technical capacity early years educators need in order to effectively support our early learners. The College of Education, under the direction of Dean M. Prytula, has been very involved in this area and has recognized the need for targeted pre-service and in-service learning opportunities for early years teachers. From the perspective of a school division, these opportunities are extremely helpful. With the increase in population growth in our city/province and projected growth in our 0-5 year-old population, we have a high need for hiring early years teachers, and more importantly, teachers that have the requisite base training and background in early childhood pedagogy. This knowledge will enable them to begin planning for children with confidence and provide school divisions an opportunity to deepen their learning through on-going professional development. This model will benefit the outcomes of our children in our early-learning programs and ultimately, we believe, will have a positive impact on graduation rates in our province.

This area is a burgeoning one. New insights, approaches and strategies are being developed regularly. Our close working relationship with our university and college is fundamental to our future success. We have a common goal: providing the best, most effective educational experience for our most valuable resource—our children. A program such as the ECE Certificate is vitally important to our accomplishment of this goal. I trust that all involved with this process see and agree that our investments in early years are among the best, most influential allocations we can make.

I appreciate the opportunity to provide this letter of support. Should there be any further questions or discussion, please do not hesitate to contact me.

Sincerely,

Greg Chatlain

Greg Chatlain, Director of Education
Greater Saskatoon Catholic Schools

PRAIRIE SPIRIT
SCHOOL DIVISION

Box 809 • 121 Collins Street
Warman SK CAN • S0K 4S0
Phone: 306-683-2800
Fax: 306-934-8221
www.spiritsd.ca

May 1, 2019

Dr. Michelle Prytula, Dean
College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon, SK S7N 0X1

Dear Dean Prytula:

On behalf of Prairie Spirit School Division, it is my pleasure to write this letter of support for the Early Childhood Certificate program. This program, which is designed to lead to an Advanced Qualification Certificate from the Saskatchewan Professional Teachers Regulatory Board, will provide educators with the training and experience in their practice to engage with our young learners in exciting ways.

As a Division, we have had the opportunity to be part of the development of the five courses that will be offered. These courses align closely with the Educational Sector Strategic Plan (ESSP) for the Ministry of Education. They also bring coherence to our work as a Division with a specific focus on Early Learning, Authentic Assessment and Parent Engagement. We know that the opportunity for this course will benefit our learners, big and small.

Please consider this letter as support of this certificate proposal and add it as part of the program proposal to those University of Saskatchewan committees that oversee the academic work of the College of Education.

Sincerely,

Lori Jeschke
Director of Education

LJ/nm

HORIZON SCHOOL DIVISION

Phone: 1-306-682-2558
Toll-free: 1-866-966-2558
Fax: 1-306-682-5154
10366 - 8th Avenue
PO Box 40
Humboldt, Saskatchewan
S0K 2A0

May 3, 2019

Michelle Prytula, Dean - College of Education
University of Saskatchewan
28 Campus Drive
Saskatoon SK S7N 0X1

Dear Ms. Prytula;

Re: Letter of Support for the Early Childhood Education (ECE) Certificate Program

I am heartily lending my support in consideration for the opportunity for an Early Childhood specialization for preservice teachers at the University of Saskatchewan. Early Learning is a key time in a child's development and having highly trained educators leading those classrooms is vital to the success of every child. Rigor through play and high quality program development are critical in the early years. When children are provided with high quality early learning experiences that respond to their joyful nature and their individual developmental and learning needs, they thrive. In Horizon School Division, we continue to seek and develop teachers who have both the passion and the background they need to be able to move this learning forward.

Research plays a necessary role in the decisions Horizon makes in support of our children and students. Effective Early Learning programs has been determined to have a significant impact on students in terms of their success in K-12 education and beyond. Our own action research has noted a direct correlation between the readiness for learning based on the Early Years Evaluation Assessment tool and the success for those students in grade three literacy and math. We have also documented the challenges that many rural school divisions face in finding teachers who have the academic background to deal with the challenges of providing quality early learning programming. Many of our teachers who find themselves with an early learning portfolio lack the deep background that is being proposed in the curriculum. While we provide our own supports to these teachers, that work happens after the teachers have completed their university degrees and are often just-in-time or on the job professional development.

The university courses that you have proposed and the scope of education they would provide not only support school divisions' needs to have qualified, highly trained educators, they would also provide those educators with the confidence to design highly effective classrooms. This direction would positively move the dial on the Provincial Education Sector Strategic Plan (ESSP) Early Years outcome of having 90% of our children ready for learning upon leaving Kindergarten.

I would particularly like to acknowledge the work you are proposing with respect to First Nation, Métis, and Inuit perspectives and ways of knowing, combined with linguistic and cultural diversity. This is a need that we find with respect to our staff and I can't say enough about the value that would be added to the collective professional capacity of our teachers. In closing, I would like to thank you for your vision and foresight in

developing this program in response to the needs and requests of Directors of Education and Boards of Education on behalf of their children and families across Saskatchewan. I whole-heartedly endorse this work and recommend without hesitation that the Saskatchewan Professional Teachers Regulatory Board provide it as an Advanced Qualification Certificate for teachers.

I look forward to continuing the support of this important intitiative now and in the future.

Sincerely,

Kevin C. Garinger B.Ed., M.A.Ed.
Director of Education/CEO
Horizon School Division No. 205

Consultation with the Registrar Form

This form is to be completed by the Registrar (or his/her designate) during an in-person consultation with the faculty member responsible for the proposal. Please consider the questions on this form prior to the meeting.

Section 1: New Degree / Diploma / Certificate Information or Renaming of Existing

1 Is this a new degree, diploma, or certificate? Yes [X] No [ ]
Is an existing degree, diploma, or certificate being renamed? Yes [ ] No [X]
If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new degree, diploma, or certificate?

Early Childhood Education Certificate; suggested short description - Early Childhood Education Cert; suggested code = ECEC

3 What is the credential of this new degree, diploma, or certificate? [Example - D.M.D. = Doctor of Dental Medicine]

E.C.E.C.

4 If you have renamed an existing degree, diploma, or certificate, what is the current name?

5 Does this new or renamed degree / diploma / certificate require completion of degree level courses or non-degree level courses, thus implying the attainment of either a degree level or non-degree level standard of achievement?

Degree level

6 If this is a new degree level certificate, can a student take it at the same time as pursuing another degree level program? Yes [X] No [ ]

7 If YES, a student attribute will be created and used to track students who are in this certificate alongside another program. The attribute code will be:

ECEC = In Early Childhood Educ Cert

8 Which College is responsible for the awarding of this degree, diploma, or certificate?

College of Education

9 Is there more than one program to fulfill the requirements for this degree, diploma, or certificate? If yes, please list these programs.

10 Are there any new majors, minors, or concentrations associated with this new degree / diploma / certificate? Please list the name(s) and whether it is a major, minor, or concentration, along with the sponsoring department.

ECE [Early Childhood Education] - suggested code and description; a major is required on all programs

11 If this is a new graduate degree, is it thesis-based, course-based, or project-based?

Section 2: New / Revised Program for Existing or New Degree / Diploma / Certificate Information

1 Is this a new program? Yes [X] No [ ]
Is an existing program being revised? Yes [ ] No [X]
If you've answered NO to each of the previous two questions, please continue on to the next section.

2 If YES, what degree, diploma, or certificate does this new/revised program meet requirements for?
Early Childhood Education Certificate

3 What is the name of this new/revised program?
Early Childhood Education Certificate; suggested short description - Early Childhood Education Cert; suggested code = ECEC

4 What other program(s) currently exist that will also meet the requirements for this same degree(s)?
n/a

5 What College/Department is the academic authority for this program?
College of Education [ED] / Curriculum Studies [ECUR] - exist in student system

6 Is this a replacement for a current program? Yes [ ] No [X]

7 If YES, will students in the current program complete that program or be grandfathered?

8 If this is a new graduate program, is it thesis-based, course-based, or project-based?

Section 3: Mobility

Mobility is the ability to move freely from one jurisdiction to another and to gain entry into an academic institution or to participate in a learning experience without undue obstacles or hindrances.

1 Does the proposed degree, program, major, minor, concentration, or course involve mobility? Yes [ ] No [X]
If yes, choose one of the following?
Domestic Mobility (both jurisdictions are within Canada) [ ]
International Mobility (one jurisdiction is outside of Canada) [ ]

2 Please indicate the mobility type (refer to Nomenclature for definitions).
Joint Program [ ]
Joint Degree [ ]
Dual Degree [ ]
Professional Internship Program [ ]
Faculty-Led Course Abroad [ ]
Term Abroad Program [ ]

3 The U of S enters into partnerships or agreements with external partners for the above mobility types in order to allow students collaborative opportunities for research, studies, or activities. Has an agreement been signed? Yes [ ] No [ ]

4 Please state the full name of the agreement that the U of S is entering into.

5 What is the name of the external partner?

6 What is the jurisdiction for the external partner?

Section 4: New / Revised Major, Minor, or Concentration for Existing Degree Information (Undergraduate)

1 Is this a new or revised major, minor, or concentration attached to an existing degree program? Yes [ ] No [X] Revised [ ]
If you've answered NO, please continue on to the next section.

2 If YES, please specify whether it is a major, minor, or concentration. If it is more than one, please fill out a separate form for each.

3 What is the name of this new / revised major, minor, or concentration?

4 Which department is the authority for this major, minor, or concentration? If this is a cross-College relationship, please state the Jurisdictional College and the Adopting College.

5 Which current program(s), degree(s), and/or program type(s) is this new / revised major, minor, or concentration attached to?

Section 5: New / Revised Disciplinary Area for Existing Degree Information (Graduate)

1 Is this a new or revised disciplinary area attached to an existing graduate degree program? Yes [ ] No [X] Revised [ ]
If you've answered NO, please continue on to the next section.

2 If YES, what is the name of this new / revised disciplinary area?

3 Which Department / School is the authority for this new / revised disciplinary area? (NOTE - if this disciplinary area is being offered by multiple departments see question below.)

4 Which **multiple** Departments / Schools are the authority for this new / revised disciplinary area?

4a Of the **multiple** Departments / Schools who are the authority for this new / revised disciplinary area and what allocation percentage is assigned to each? (Note - must be whole numbers and must equal 100.)

4b Of the **multiple** Departments / Schools who is the primary department? The primary department specifies which department / school policies will be followed in academic matters (ex. late adds, re-read policies, or academic misconduct). If no department / school is considered the primary, please indicate that. (In normal circumstances, a department / school with a greater percentage of responsibility - see question above - will be designated the primary department.)

5 Which current program(s) and / or degree(s) is this new / revised disciplinary area attached to?

Section 6: New College / School / Center / Department or Renaming of Existing

1	Is this a new college, school, center, or department?	Yes		No X
	Is an existing college, school, center, or department being renamed?	Yes		No X
	Is an existing college, school, center, or department being deleted?	Yes		No X

If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new (or renamed) college, school, center, or department?

3 If you have renamed an existing college, school, center, or department, what is the current name?

4 What is the effective term of this new (renamed) college, school, center, or department?

5 Will any programs be created, changed, or moved to a new authority, removed, relabelled?

6 Will any courses be created, changed, or moved to a new authority, removed, relabelled?

7 Are there any ceremonial consequences for Convocation (ie. New degree hood, adjustment to parchments, etc.)?

Section 7: Course Information

1 Is there a new subject area(s) of course offering proposed for this new degree? If so, what is the subject area(s) and the suggested four (4) character abbreviation(s) to be used in course listings?

No

2 If there is a new subject area(s) of offerings what College / Department is the academic authority for this new subject area?

3 Have the subject area identifier and course number(s) for new and revised courses been cleared by the Registrar?

4 Does the program timetable use standard class time slots, terms, and sessions? Yes [ ] No [X]

If NO, please describe.

Courses typically offered in the evenings, weekends, or during the summer to accommodate the schedule of in-service teachers.

5 Does this program, due to pedagogical reasons, require any special space or type or rooms? Yes [ ] No [X]

If YES, please describe.

NOTE: Please remember to submit a new "Course Creation Form" for every new course required for this new program / major. Attached completed "Course Creation Forms" to this document would be helpful.

Section 8: Admissions, Recruitment, and Quota Information

1 Will students apply on-line? If not, how will they apply?

If a student is already in the Bachelor of Education program they will apply on-line but won't be admitted to the program in Banner and instead will have the appropriate attribute added. If an applicant is not a current student, they will be admitted to this program. Process to be followed will be the same as for admissions for the CIL [Certificate in Indigenous Languages] program.

2 What term(s) can students be admitted to?

YYYY09 [September], YYYY01 [January], YYYY05 [May], and YYYY07 [July]

3 Does this impact enrollment?

Slight increase

4 How should Marketing and Student Recruitment handle initial inquiries about this proposal before official approval?

Refer to the Curriculum Studies Department in the College of Education; College would like to have a page on admissions.usask.ca with details

5 Can classes towards this program be taken at the same time as another program?

Yes

6 What is the application deadline?

Fall - August 15, Winter - December 1, Spring - April 1, Summer - May 1 (unless otherwise extended)

7 What are the admission qualifications? (IE. High school transcript required, grade 12 standing, minimum average, any required courses, etc.)

Bachelor of Education degree (B.Ed.) or currently enrolled in the B.Ed. Program; special permission to enrol in the certificate program may be granted by the Curriculum Studies Department

8 What is the selection criteria? (IE. If only average then 100% weighting; if other factors such as interview, essay, etc. what is the weighting of each of these in the admission decision.)

100% Bachelor of Education degree (B.Ed.) or currently enrolled in the B.Ed. Program

9 What are the admission categories and admit types? (IE. High school students and transfer students or one group? Special admission? Aboriginal equity program?)

n/a

10 What is the application process? (IE. Online application and supplemental information (required checklist items) through the Admissions Office or sent to the College/Department?)

Online application with documents sent to Curriculum Studies Department

11 Who makes the admission decision? (IE. Admissions Office or College/Department/Other?)

Curriculum Studies Department, College of Education

12 Letter of acceptance - are there any special requirements for communication to newly admitted students?

No

13 Will the standard application fee apply?

Yes - currently $90

14 Will all applicants be charged the fee or will current, active students be exempt?

All students will pay the fee

15 Are international students admissible to this program?

Yes, if they meet the admission requirements

Section 9: Government Loan Information

NOTE: Federal / provincial government loan programs require students to be full-time in order to be eligible for funding. The University of Saskatchewan defines full-time as enrollment in a minimum of 9 credit units (operational) in the fall and/or winter term(s) depending on the length of the loan.

1 If this is a change to an existing program, will the program change have any impact on student loan eligibility?

2 If this is a new program, do you intend that students be eligible for student loans?

Yes

Section 10: Convocation Information (only for new degrees)

1 Are there any 'ceremonial consequences' of this proposal (ie. New degree hood, special convocation, etc.)?

No - as is a certificate program

2 If YES, has the Office of the University Secretary been notified?

3 When is the first class expected to graduate?

Fall 2021

4 What is the maximum number of students you anticipate/project will graduate per year (please consider the next 5-10 years)?

Maximum is 40 but realistically could be 25-30

Section 11: Schedule of Implementation Information

1 What is the start term?

202005 [May 2020]

2 Are students required to do anything prior to the above date (in addition to applying for admission)? Yes [ ] No [X]

If YES, what and by what date?

Section 12: Registration Information

1 What year in program is appropriate for this program (NA or a numeric year)?
(General rule = NA for programs and categories of students not working toward a degree level qualification.)

YR1

2 Will students register themselves? Yes [X] No [ ]

If YES, what priority group should they be in?

Same registration window as year 3 and 4 Education students

Section 13: Academic History Information

1 Will instructors submit grades through self-serve? Yes [X] No [ ]

2 Who will approve grades (Department Head, Assistant Dean, etc.)?

As per current set-up

Section 14: T2202 Information (tax form)

1 Should classes count towards T2202s? Yes [X] No [ ]

Section 15: Awards Information

1 Will terms of reference for existing awards need to be amended? Yes [ ] No [X]

2 If this is a new undergraduate program, will students in this program be eligible for College-specific awards?

If there are any awards targeted specifically for certificate programs, these students could be eligible. Otherwise, the College of Education doesn't likely have any terms of references that would allow for these students to be considered.

Section 16: Government of Saskatchewan Graduate Retention (Tax) Program

1 Will this program qualify for the Government of Saskatchewan graduate retention (tax) program? Yes [X] No [ ]
To qualify the program must meet the following requirements:
- be equivalent to at least 6 months of full-time study, and
- result in a certificate, diploma, or undergraduate degree.

Section 17: Program Termination

1 Is this a program termination? Yes [ ] No [X]
If yes, what is the name of the program?

2 What is the effective date of this termination?

3 Will there be any courses closed as a result of this termination? Yes [ ] No [ ]
If yes, what courses?

4 Are there currently any students enrolled in the program? Yes [ ] No [ ]
If yes, will they be able to complete the program?

5 If not, what alternate arrangements are being made for these students?

6 When do you expect the last student to complete this program?

7 Is there mobility associated with this program termination? Yes [ ] No [ ]
If yes, please select one of the following mobility activity types.

Dual Degree Program	
Joint Degree Program	
Internship Abroad Program	
Term Abroad Program	
Taught Abroad Course	
Student Exchange Program	

Partnership agreements, coordinated by the International Office, are signed for these types of mobility activities. Has the International Office been informed of this program termination? Yes [ ] No [ ]

Section 18: Proposed Tuition and Student Fees Information

1 How will tuition be assessed?

Standard Undergraduate per credit	X
Standard Graduate per credit	

Standard Graduate per term	
Non standard per credit*	
Non standard per term*	
Other *	
Program Based*	

* See attached documents for further details

2 If fees are per credit, do they conform to existing categories for per credit tuition? If YES, what category or rate?

Yes - TC02 [Tuition - Category 2]

3 If program based tuition, how will it be assessed? By credit unit? By term? Elsehow?

4 Does proponent's proposal contain detailed information regarding requested tuition? Yes [ ] No [ ]

If NO, please describe.

5 What is IPA's recommendation regarding tuition assessment? When is it expected to receive approval?

6 IPA Additional comments?

7 Will students outside the program be allowed to take the classes?

Yes

8 If YES, what should they be assessed? (This is especially important for program based.)

Standard undergraduate per credit

9 Do standard student fee assessment criteria apply (full-time, part-time, on-campus versus off-campus)?

Yes

10 Do standard cancellation fee rules apply?

Yes

11 Are there any additional fees (e.g. materials, excursion)? If yes, see NOTE below.

12 Are you moving from one tuition code (TC) to another tuition code? Yes [ ] No [X]

If YES, from which tuition code to which tuition code?

13 Are international students admissible to the program? If yes, will they pay the international tuition differential?

Yes, they will pay the international tuition differential

NOTE: Please remember to submit a completed "Application for New Fee or Fee Change Form" for every new course with additional fees.

Section 19: TLSE - Information Dissemination (internal for TLSE use only)

1 Has TLSE, Marketing and Student Recruitment, been informed about this new / revised program? Yes [ ] No [ ]

2	Has TLSE, Admissions, been informed about this new / revised program?	Yes		No
3	Has TLSE, Student Finance and Awards, been informed about this new / revised program?	Yes		No
4	Has CGPS been informed about this new / revised program?	Yes		No
5	Has TLSE, Transfer Credit, been informed about any new / revised courses?	Yes		No
6	Has ICT-Data Services been informed about this new or revised degree / program / major / minor / concentration?	Yes		No
7	Has the Library been informed about this new / revised program?	Yes		No
8	Has ISA been informed of the CIP code for new degree / program / major?	Yes		No
9	Has Room Scheduling/Scheduling Hub/Senior Coordinator of Scheduling been informed of unique space requirements for the new courses and/or informed of program, course, college, and department changes?	Yes		No
10	Has the Convocation Coordinator been notified of a new degree?	Yes		No

11 What is the highest level of financial approval required for this submission? Check all that apply.

a. None - as it has no financial implications

OR

b. Fee Review Committee

c. Institutional Planning and Assessment (IPA)

d. Provost's Committee on Integrated Planning (PCIP)

e. Board of Governors

f. Other

SIGNED

Date:

Registrar (Russell Isinger):

College / Department Representative(s):

IPA Representative(s):

AGENDA ITEM NO: 10.3

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

REPORT FOR INFORMATION

PRESENTED BY: Susan Detmer; chair, academic programs committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Changes to the Biomedical Science programs in the College of Arts and Science**

COUNCIL ACTION: **For Information Only**

SUMMARY:
At its October 24, 2019 meeting, the academic programs committee approved the following motions:

- ***That the Academic Programs Committee approve the Bachelor of Science (B.Sc.) in Biochemistry, Microbiology, and Immunology, effective May 2020.***
- ***That the Academic Programs Committee approve the Bachelor of Science (B.Sc.) in Biomedical Neuroscience, effective May 2020.***
- ***That the Academic Programs Committee approve the Bachelor of Science (B.Sc.) in Cellular, Physiological, and Pharmacological Sciences, effective May 2020.***
- ***That the Academic Programs Committee approve the three-year Bachelor of Science (B.Sc.) in Biomedical Foundations, effective May 2020.***
- ***That the Academic Programs Committee approve the deletion of the Bachelor of Science (B.Sc.) in Biochemistry effective May 2020.***
- ***That the Academic Programs Committee approve the deletion of the Bachelor of Science (B.Sc.) in Microbiology and Immunology, effective May 2020.***
- ***That the Academic Programs Committee approve the deletion of the Bachelor of Science (B.Sc.) in Anatomy and Cell Biology, effective May 2020.***
- ***That the Academic Programs Committee approve the deletion of the Bachelor of Science (B.Sc.) in Physiology and Pharmacology, effective May 2020.***

In 2018, the five biomedical sciences (BMSC) departments were merged to form two new departments: the Department of Anatomy, Physiology and Pharmacology, and the Department of Biochemistry, Microbiology and Immunology. With these mergers, the College of Arts and Science has proposed changes to the BMSC undergraduate majors to align with these new structures.

The College of Arts and Science proposed four new BMSC majors: 1) Biochemistry, Microbiology and Immunology; 2) Cellular, Physiological, and Pharmacological Sciences; 3) Biomedical Neuroscience; and 4) a three-year program in Biomedical Foundations.

The new programs share a common multi-disciplinary two-year platform, with specialization occurring after that. Details of the new majors are presented in the attached program proposals.

The existing four BMSC majors will be deleted: 1) Biochemistry; 2) Anatomy and Cell Biology; 3) Microbiology; and 4) Physiology and Pharmacology. Students currently in the programs will be permitted to finish their programs and will be supported for up to ten years in doing so. No new students will be admitted into these programs.

The new BMSC majors all adhere to existing Arts and Science program templates and so required approval at the Academic Programs Committee (APC). APC approved these new majors and the deletion of the existing majors at its October 24, 2019 meeting.

ATTACHMENTS:

1. Biomedical Neuroscience and Cellular, Physiological and Pharmacological Sciences
2. Biochemistry, Microbiology and Immunology
3. Biomedical Foundations
4. Biomedical Sciences Program Proposals – General Information

UNIVERSITY OF SASKATCHEWAN	**Proposal for Academic or Curricular Change**

PROPOSAL IDENTIFICATION

Title of proposal: **Majors in *Biomedical Neuroscience* and *Cellular, Physiological, and Pharmacological Sciences* to replace existing majors in *Anatomy and Cell Biology* and *Physiology and Pharmacology***

Degree(s): Bachelor of Science

Field(s) of Specialization: Biomedical Neuroscience
Cellular, Physiological, and Pharmacological Sciences

Level(s) of Concentration: Honours and Four-year

Degree College: Arts & Science

Contact person(s) (name, telephone, fax, e-mail):

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Faculty; Department of Biochemistry, Microbiology, and Immunology; College of Medicine
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Proposed date of implementation: May 2020

Executive Summary: In July of 2018 the Departments of Anatomy & Cell Biology, Physiology, and Pharmacology merged to form the Department of Anatomy, Physiology, and Pharmacology (APP). The APP Department now seeks to update their undergraduate programs to reflect the strengths and priorities of the new department. This includes the introduction of new majors in Cellular, Physiological, and Pharmacological Sciences (CPPS), and in Biomedical Neuroscience (BMNS).

The merger to form the APP department created a large faculty complement of neuroscientists (approximately 12) and a pool of courses that are partially or entirely focused on neuroscience (seven). Building on the BMSC Platform, these courses can be combined with neuroscience courses offered in other departments to offer a very attractive program in Biomedical Neuroscience at the U of S.

The CPPS major is modelled on the existing Physiology and Pharmacology major, which has been the most heavily populated biomedical science major over recent years. CPPS builds on the priority of providing students with multi-disciplinary training within the foundational sciences (anatomy, physiology and pharmacology) that are critical to success in studying health professional programs as well as enabling careers within a spectrum of science-based activities.

Rationale for Program Change:

The biomedical sciences are highly-competitive, rapidly-evolving disciplines. As such, it is essential that training in these fields reflects contemporary content and priorities. With many common foundations, priorities, and investigative tools, the fields of Anatomy, Physiology, and Pharmacology are well-suited to co-exist within a shared department and teaching/research program. With that, in July 2018, through an overwhelmingly positive vote by our faculty, the Departments of Anatomy & Cell Biology, Physiology and Pharmacology merged to form the Department of Anatomy, Physiology, and Pharmacology (APP). The merged departmental structure offers numerous advantages including greater faculty numbers to ensure a more robust department, enhanced teaching and research synergies, and establishment of a stronger foundation for multi-disciplinary training. The APP Department now seeks to adapt their undergraduate programs to reflect these new opportunities through the development of two majors Biomedical Neuroscience and Cellular, Physiological, and Pharmacological Sciences, which will replace the majors of Anatomy & Cell Biology (ACB) and Physiology & Pharmacology (PHPY).

Biomedical Neuroscience

The proposed Neuroscience major formalizes the will of the faculty, matches current priorities within biomedical science education, matches student interest, leverages the unique infrastructure and expertise present at the U of S, and exemplifies the priorities of the University in the establishment of multi-disciplinary collaborations. Specifically, while there has been longstanding recognition of the opportunity for development of both undergraduate and graduate programs in neuroscience at the University of Saskatchewan this has been challenged by the separation of the neuroscience faculty within different departments and colleges. The recent merger creates a sufficient core of neuroscientists to serve as the foundation for development of a Biomedical Neuroscience major, which will include valuable contributions from other departments. The new major enables the success of graduates, promotes growth of biomedical research at the U of S, expands the pool of highly qualified candidates for graduate and professional programs, and achieves enrollment targets through recruitment of high-caliber students.

Overall Objectives of the BMNS Major:

- Provide learners with student-centric, multidisciplinary training.
- Inspire and enable careers within a spectrum of science-based activities.
- Develop skills that will serve them well in the workplace, namely critical thinking skills, communication (written and oral), collaboration and teamwork.
- Provide a strong foundational basis in biomedical sciences and research skills as well as serve as an inspiration for those students considering graduate training.
- Provide students with experiential learning opportunities.
- Reflect modern priorities in biomedical science education.
- Attract top-tier students, both nationally and internationally.
- Bolster the research capacities of our faculty.
- Enable enrollment growth for the U of S.

Key Curriculum Changes for the BMNS Major:

The BMNS major builds on the strengths of its predecessors, but with increased priority on multi-disciplinary training, experiential learning, and cutting-edge content. Students will move from the BMSC Platform to more specific training in BMNS within the third and fourth years. The course requirements for the major are carefully structured to ensure students receive multi-disciplinary training at the levels of the shared biomedical science platform of the first two years which provides students introductory level exposure to cell biology, biochemistry, microbiology, physiology and pharmacology, to advanced, and more specific exposure in their third and fourth years to neurophysiology and neuroscience, neuroanatomy, neurobiology of behavior and human neuropsychology, to name just a few of the options available.

The BMNS major represents a novel offering building on an established foundation of existing courses, both from within the APP department as well as from other academic units. The merger of Anatomy & Cell Biology, Physiology and Pharmacology provides the opportunity to plan around the neuroscience-related courses that have been offered in each of these departments, in combination with the neuroscience-related courses offered by other departments and colleges. These courses include BIOL430.3: Neurobiology of Behaviour, which has been included by mutual agreement with the Department of Biology, and PSY120.3 Biological and Cognitive Basis of Psychology; PSY 242.3: Physiological Psychology PSY 246.3: Human Neuropsychology; PSY 252.3 Perceptual Processes; PSY448.3: Advanced Seminar in Neuroscience, which were recommended for inclusion in discussions with the Department of Psychology. Discussions with the College of Kinesiology, regarding inclusion of a number of their courses, are ongoing, with any agreed upon courses to be included in future iterations of the

program. Collectively, there is already a large base of neuroscience courses to support this new major with the potential for further expansion of this pool.

Consistent with the majors being replaced, students within the BMNS major will have the option for an Honours degree based upon the completion of additional six credit undergraduate research project NEUR 432.6, and achievement of the required averages in the major and overall..

Student Demand for BMNS Degree:

At neuroscience-related public events such as the Brain Blast and Brain Bee during Brain Awareness Week it has become apparent that some high school students are actively seeking out neuroscience undergraduate programs and have indicated that the University of Alberta and University of Calgary are currently their closest options. The creation of such a program will allow the U of S to attract students from other provinces and retain excellent Saskatchewan students seeking such programs. This program will allow undergraduate students with an interest in the neurosciences to receive a tailored program exposing them to a wide variety of neuroscience topics and techniques. This major will initially be capped at approximately 40 students per year, a reflection of limitations imposed by access to cadaveric samples which are essential for the required ACB 334.3 Introductory Neuroanatomy course. Based on consultations with current students within the biomedical sciences majors we anticipate no difficulty in reaching this number. Student selection for the program will be based on academic average at the end of the two-year BMSC platform.

Targeted Demographics of the BMNS major:

The biomedical sciences typically attract highly-motivated students who are either pursuing careers in science or are seeking entry into professional schools (typically Medicine, Pharmacy, or Dentistry). We anticipate a similar foundation of students within the BMNS major. Within that, the declared interest specifically in Biomedical Neuroscience may translate into a greater portion of these students transitioning into graduate studies than the more general Cellular, Physiological, and Pharmacological Sciences major.

Comparable Programs at the U of S:

The other biomedical science majors – Biochemistry, Microbiology & Immunology (BMI) and Cellular, Physiological, and Pharmacological Sciences (CPPS) – would be the closest equivalent offerings at the U of S. While all the biomedical science majors share a common two-year platform, they are quite distinct in their upper year priorities. In particular, with a heavy emphasis on understanding life a molecular level, the BMI major will be quite distinct from BMNS. Further, the CPPS and BMNS will differ in terms of the specific priorities as well as depth and breadth of knowledge; BMNS focussing on depth of knowledge in one specific area while CPPS prioritizing breadth of knowledge across a range of disciplines.

Outside the biomedical sciences, Health Studies is likely the closest competing program at the U of S. Similar to some of the BMNS students, many students of the Health Studies program aspire to enter medical school. There is also some course overlap, especially with the Biology, Development and Health stream, but the programs are, however, quite distinct in their upper year requirements. The BMNS major places heavy emphasis on biomedical (natural) science courses with specific relation to neurosciences. In contrast, the Health Studies program strives for a more holistic perspective with a much broader interdisciplinary scope. Indeed, the Health Studies program is self-described as “a distinct interdisciplinary undergraduate program that builds on and combines science, social sciences, and humanities/fine arts.” The expanded scope of this program (relative to BMNS) is achieved through shared priority for courses in the humanities and social sciences, and the sciences. As such, Health Studies and BMNS represent quite unique educational experiences largely catering to distinct populations of students.

While there are a number of departments and colleges with courses relating to neuroscience, there are no formal majors in this area. The priority in developing this Biomedical Neuroscience major was to collaborate, rather than compete, with these offerings. Specifically, consultations with Biology and Psychology have led to the inclusion of select courses from their programs into the BMNS major. Additionally, the availability of our courses to support their programs and students has been emphasized in these discussions.

Comparable Programs in Saskatchewan:

There are no other comparable programs within Saskatchewan. The closest in-province alternative would be at the University of Regina, which offers degrees in biology as well as chemistry/biochemistry, but these are not comparable alternatives to the proposed major.

Comparable Programs in Canada:

Most Canadian Universities, in particular those with medical schools, offer degrees within the various biomedical sciences. Further, many Canadian Universities have moved towards a multidisciplinary approach to biomedical science education. Updated programs, like BMNS, are essential for us to compete with these schools, both for retention of local students as well as to attract students on national and international scales.

Many Universities in Canada have created neuroscience undergraduate programs [Table 1] and a few have even created neuroscience academic departments.

Examples of Neuroscience degrees offered across Canada.

Degree Offered	University
B.Sc. Neuroscience	Laurentian University McGill University University of Toronto University of Calgary University of Lethbridge Dalhousie University University of New Brunswick Brock University University of Alberta
B.Sc. Behaviour, Cognition and Neuroscience	University of Windsor
B.Sc. Neuroscience and Mental Health	Carleton University
B.Sc. Psychology, Neuroscience & Behaviour	McMaster University
B.Sc. Behavioural Neuroscience	Memorial University University of British Columbia

Comparison to other Canadian institutions:

- Of the neighbouring U15 Universities; the University of Alberta and University of Calgary currently have undergraduate neuroscience programs; the University of Manitoba does not.
- The proposed program shares many similarities with both U of A and U of C's programs.

    - All three programs cover core aspects of neuroscience in the mandatory course offerings including neurophysiology, neuroanatomy, and neuropharmacology, as well as systems, behavioural and cognitive neuroscience.
- The BMSC core used in the U of S programs provides students an increased breadth in the biomedical sciences.

Potential Impacts on Other Academic Programs:

The new BMNS major is not anticipated to have any negative consequences for other academic programs or units, as the majority of the required courses for the BMNS major are carried forward from the previous, separate programs in Anatomy & Cell Biology and Physiology & Pharmacology. This includes the introductory and related courses taught by other departments, all of which have been consulted about the proposed updates. The Department of Philosophy has been specifically consulted regarding inclusion of PHIL 140.3 (Critical Thinking), and they have offered their support. The Departments of Psychology and History have been consulted regarding inclusion of HLST 110.3 (Introduction to Health Studies) and HIST 165.3 (History Matters: Health and Society), respectively, as recommended electives in the program, and each has offered support for these selections.

BMNS utilizes a variety of neuroscience-related courses of Psychology and Biology which will have enrollment benefits, attract attention to their neuroscience courses and faculty, and represent the ideal of different departments and colleges working together towards a common academic goal. It is hoped that this spirit of collaboration will evolve into a cross-campus graduate program in Neuroscience.

Alignment with University and College Priorities:

The BMNS major directly aligns with the strategic plans of the university and COM, in particular to strengthen research capacity and to grow a strong cohort of excellent learners/researchers who will enhance both health science professional and graduate programs. The update to the BMSC programs is specifically highlighted in the area of Strengthening Research Capacity in the COM strategic plan. Our goal is to implement undergraduate majors that stimulate graduate student and faculty research programs. In addition, the undergraduate programs will work to encourage and expand collaborations – both interdisciplinary and within college basic science/clinical areas. In particular, we are collaborating with the departments of Community Health and Epidemiology, and Pathology to offer undergraduate courses in Epidemiology and Pathology.

Knowledge Creation:

A central priority of the new major is to contribute to a vibrant and robust research environment within the COM. Many of the graduate students within the research labs of the biomedical science faculty are alumni of our own undergraduate programs. As such there is self-serving motivation to ensure these individuals receive the highest caliber of training to best prepare them for success as researchers. While it is relatively easy to train students to be proficient in a range of techniques, the greater value is in equipping these individuals with the skills required to make higher-level contributions to research. The new program, through emphasis on critical thinking, experiential learning, and training in cutting edge research techniques, is designed to enable the training of such individuals. The opportunities provided will also serve to attract students (provincially, nationally, and internationally) to our campus. We anticipate that the proposed program generate a body of highly trained, interested students that can transition into graduate programs across the institution, thereby having a positive impact on enrolment rates within graduate programs across campus.

Innovation in Academic Programs and Services:

Within the new major there is a priority for multidisciplinary training that is presented within the context of a revamped curriculum that prioritizes innovative lab experiences in cutting-edge technologies and new opportunities for experiential learning. The new program also brings forth innovative approaches to academic services through the development of a number of online courses designed to accommodate students from outside of Saskatoon or with limited access to traditional classes. Currently, BMSC 200.3, BMSC 230.3, and PHSI 208.6 (to become BMSC 207.3/208.3 in 2020-21) are available as online courses with further plans to make other courses of the common BMSC Platform available in online formats.

Resources:

No additional financial or personnel resources are required for the BMNS major.

Cellular, Physiological, and Pharmacological Sciences

The proposed CPPS program will benefit students through a variety of increasingly advanced courses, including laboratory courses that facilitate critical thinking skills, communication (written and oral) and teamwork. The combined CPPS program will present an opportunity for students to develop a solid understanding of the three most relevant biomedical sciences (anatomy, physiology, pharmacology) as preparation for future study in a health discipline. The merger of the PHPY and ACB programs would also provide opportunities to integrate knowledge among three disciplines that have traditionally been very closely linked to each other. The research opportunities offered through the Honours program as well as skills developed in lab courses and senior courses will facilitate achievement of preparing students for research careers. Finally, merging the PHPY and ACB programs into CPPS will also position the UofS to remain highly competitive with neighbouring institutions, which either lack the depth or breadth of the proposed CPPS major in their undergraduate offerings.

When compared to neighbouring U15 institutions, the proposed CPPS major will offer a valuable balance of depth and breadth for those students most interested in the disciplines that are considered to be most central to those seeking a health profession: anatomy, physiology and pharmacology. Coupled with the critical thinking skills, communication and teamwork skills, as well as novel initiatives such as the proposed introduction to the business side of health care, the CPPS major will also improve the workplace marketability for those students wishing to enter the job market immediately after their degree. Research opportunities within the CPPS major, as well as the foundational science knowledge and workplace skills noted above will also enhance skills needed for those wishing to enter graduate studies. The merged CPPS program would also leverage the strengths of the newly merged APP department, and serve as a unifying force to facilitate collaboration and teamwork among faculty within APP.

The proposed CPPS major change formalizes the will of the faculty, matches current priorities within biomedical science education, matches student demand, leverages the unique infrastructure and expertise present at the U of S, and exemplifies the priorities of the University in the establishment of multi-disciplinary collaborations. The new major enables the success of our graduates, promotes growth of biomedical research at the U of S, expands the pool of highly qualified candidates for our graduate and professional programs, and achieves enrollment targets through recruitment of high-caliber students.

Overall Objectives of the CPPS Major:

- Provide learners with student-centric, multidisciplinary training.
- Inspire and enable careers within a spectrum of science-based activities.
- Develop skills that will serve them well in the workplace, namely critical thinking skills, communication (written and oral), collaboration and teamwork.
- Provide students with a strong basis in the foundational sciences (anatomy, physiology and pharmacology) that are critical to success in studying health professional programs.
- Provide a strong foundational basis in biomedical sciences and research skills as well as serve as an inspiration for those students considering graduate training.
- Provide students with experiential learning opportunities.
- Reflect modern priorities in biomedical science education.
- Attract top-tier students, both nationally and internationally.
- Bolster the research capacities of our faculty.
- Enable enrollment growth for the U of S.

Key Curriculum Changes for the CPPS Major:

This new CPPS degree builds on the strengths of its predecessors but with increased priority on multi-disciplinary training, experiential learning, and cutting-edge content. Students will move from the BMSC Platform to more specific, yet still multidisciplinary, training in the areas of Anatomy, Physiology, and Pharmacology within the third and fourth years.

The curriculum requirements of the CPPS major are guided by the priority to provide students with multi-disciplinary training within the foundational sciences (anatomy, physiology and pharmacology) that are critical to success in studying health professional programs as well as enabling careers within a spectrum of science-based activities. In large part, the CPPS major builds on the philosophy and course structure of the existing, highly successful Physiology & Pharmacology and Anatomy & Cell Biology majors to provide students a greater number and variety of courses to choose from while ensuring a solid foundation of multi-disciplinary training within the foundational sciences that are critical to success in studying health professional programs as well as enabling careers within a spectrum of science-based activities. Within this, however, there will be adaptations of existing courses as well as introduction of new course offerings. Specifically, PHPY 402.3 Therapeutic Herbal Compounds and Evidence based Medicine will evolve into CPPS 337.3 Experimental Design and the Health Care System with greater emphasis on critical thinking and experimental design.

Consistent with the majors being replaced, students within the CPPS major will have the option for an Honours degree based upon completion of a research project (CPPS 432.6) and the Current Topics in Cell Biology, Physiology, and Pharmacology course (CPPS 405.3), and achievement of the required averages in the major and overall.

Student Demand for CPPS Degree:

Over the past 5 years the Physiology & Pharmacology and Anatomy & Cell Biology programs have respectively graduated 156 and 29 students on average per year. The new CPPS major is anticipated to build on the sum of these programs. In particular, the Physiology & Pharmacology major has been the most heavily populated of the biomedical science programs. Based on this, and with the improvements to the curriculum, a moderate increase in student enrollment in CPPS beyond the current total of the individual Physiology & Pharmacology and Anatomy & Cell Biology programs is anticipated. The department has capacity to accommodate this growth.

Targeted Demographics of the CPPS major:

The biomedical sciences typically attract highly-motivated students who are either pursuing careers in science or are seeking entry into professional schools (typically Medicine, Pharmacy, or Dentistry). We anticipate a similar foundation of students within the CPPS major.

Comparable Programs at the U of S:

The other biomedical science majors – Biochemistry, Microbiology & Immunology (BMI) and Biomedical Neuroscience – would be the closest equivalent offerings at the U of S. While all the biomedical science majors share a common two-year platform, they are quite distinct in their upper year priorities. In particular, with a heavy emphasis on understanding life on a molecular level, the BMI major will be quite distinct from the CPPS major. Further, the CPPS and BMNS majors will be different in terms of the specific priorities as well as depth and breadth of knowledge; BMNS focussing on depth of knowledge in one specific area while CPPS prioritizes breadth of knowledge across a range of disciplines.

Health Studies is likely the closest comparable program at the U of S. Similar to some of the CPPS students, many students of the Health Studies program aspire to enter medical school. There is also some course overlap, especially with the Biology, Development and Health stream, but the programs are, however, quite distinct in their upper year requirements. The CPPS major places heavy emphasis on biomedical (natural) science courses. In contrast, the Health Studies program strives for a more holistic perspective with a much broader interdisciplinary scope. Indeed, the Health Studies program is self-described as “a distinct interdisciplinary undergraduate program that builds on and combines science, social sciences, and humanities/fine arts.” The expanded scope of the Health Studies program, relative to CPPS, is achieved through shared priority for courses in the humanities and social sciences, and the sciences. As such, Health Studies and CPPS represent quite unique educational experiences largely catering to distinct populations of students.

Comparable Programs in Saskatchewan:

There are no other comparable programs within Saskatchewan. The closest in-province alternative would be at the University of Regina, which offers degrees in biology as well as chemistry/biochemistry. In terms of depth, breadth, and scope, this is not a comparable alternative to the proposed CPPS major.

Comparable Programs in Canada:

Most Canadian Universities, in particular those with medical schools, offer degrees within the various biomedical sciences. Further, many Canadian Universities have moved towards a multidisciplinary approach to biomedical science education. Updated programs, like CPPS, are essential for us to compete with these schools, both for retention of local students as well as to attract students on national and international scales.

The University of Manitoba (UM) has a Biomedical Sciences Concentration within their Bachelors in Health Sciences (BHSc) program, however enrollment is capped at 24 students per cohort. The BHSc program is heavily weighted towards the social sciences (epidemiology, determinants of health, research methods) and the Biomedical concentration appears to simply add chemistry and biology courses to that mix. The Department of Pharmacology offers two pharmacology courses (Drugs in Human Disease I and II) that are open to undergraduate students from Science and other faculties, so presumably these could be taken as electives in the BHSc program. However there does not appear to be an option to specialize in Anatomy, Physiology or Pharmacology at UM. Thus, UM has only a small program with biomedical science specialization and little depth or breadth in Anatomy, Physiology or Pharmacology within that program.

The University of Alberta (UA) allows for undergraduate specializations within the Faculty of Science, and students can therefore specialize in Pharmacology, however it does not appear that there is an option to specialize in Anatomy per se, although a specialization in Cell Biology is available. Although an honours program in Physiology once existed, it is not clear whether that still exists. The undergraduate specialization in Pharmacology offers a wide range of pharmacology courses, with about a dozen offerings ranging from introductory courses to systems (e.g. cardiovascular) and disease based (e.g. diabetes) courses. The Cell Biology program appears to be a mixture of courses from a variety of disciplines (e.g. biology, biochemistry, chemistry, cell biology, genetics, microbiology, and math). Electives are also available from other disciplines including physiology and pharmacology. Therefore, the UA offers great depth in a particular field (Pharmacology) and it appears that their Cell Biology specialization would be the one most closely related to CPPS, albeit with much less focus.

The University of Calgary (UC) offers a Medical Sciences (MDSc) undergraduate program, and of the nearest comparator universities, this most closely resembles the proposed CPPS program. The MDSc program offers courses across the health disciplines (e.g. pharm, physiology, anatomy, molecular biology,

microbiology, biochemistry, neuroscience, epidemiology). There is also a self-directed research project within an integrated research course, with projects falling under one of the following: genetics, microbiology, cardiovascular, cancer, biochemistry and molecular biology, pharmacology and physiology, neuroscience, or special topics. The MDSc program has a longer history and more courses offered than the UofS however the program appears to provide less opportunity for depth of study within the disciplines (e.g. pharmacology) and thus may more closely resemble the interdisciplinary program we plan to propose at a later date.

Potential Impacts on Other Academic Programs:

The new CPPS major is not anticipated to have any negative consequences for other academic programs or units, as the majority of the required courses for the CPPS major are carried forward from the previous, separate programs in Anatomy & Cell Biology and Physiology and Pharmacology. This includes the introductory and related courses taught by other departments, all of which have been consulted about the proposed updates. The Department of Philosophy has been specifically consulted regarding inclusion of PHIL 140 (Critical Thinking), and they have offered their support. The Departments of Psychology and History have been consulted regarding inclusion of HLST 110.3 (Introduction to Health Studies) and HIST 165.3 (History Matters: Health and Society), respectively, as recommended electives in the program, and each has offered support for these selections.

Alignment with University and College Priorities:

The CPPS major directly aligns with the strategic plans of the university and COM, in particular to strengthen research capacity and to grow a strong cohort of excellent learners/researchers who will enhance both health science professional and graduate programs. The update to the BMSC programs is specifically highlighted in the area of Strengthening Research Capacity in the COM strategic plan. Our goal is to implement undergraduate majors that stimulate graduate student and faculty research programs. In addition, the undergraduate programs will work to encourage and expand collaborations – both interdisciplinary and within college basic science/clinical areas. In particular, we are collaborating with the departments of Community Health and Epidemiology and Pathology to offer undergraduate courses in Epidemiology and Pathology.

Knowledge Creation:

A central priority of the new major is to contribute to a vibrant and robust research environment within the COM. Many of the graduate students within the research labs of the biomedical science faculty are alumni of our own undergraduate programs. As such there is self-serving motivation to ensure these individuals receive the highest caliber of training to best prepare them for success as researchers. While it is relatively easy to train students to be proficient in a range of techniques, the greater value is in equipping these individuals with the skills required to make higher-level contributions to research. The new program, through emphasis on critical thinking, experiential learning, and training in cutting edge research techniques, is designed to enable the training of such individuals. The opportunities provided will also serve as a strong incentive to recruit students (provincially, nationally, and internationally) to our campus.

Innovation in Academic Programs and Services:

Within the new major there is a priority for multidisciplinary training that is presented within the context of a revamped curriculum that prioritizes innovative lab experiences in cutting-edge technologies and new opportunities for experiential learning. The new program also brings forth innovative approaches to academic services through the development of a number of online courses designed to accommodate students from outside of Saskatoon or with limited access to traditional classes. Currently, BMSC 200.3,

BMSC 230.3, and PHSI 208.6 (to become BMSC 207.3/208.3 in 2020-21) are available as online courses with further plans to make other courses of the common BMSC Platform available in online formats.

Resources:
No additional financial or personnel resources are required for the CPPS major.

UNIVERSITY OF SASKATCHEWAN

Report Form for Program Termination

Program(s) to be deleted: **Anatomy and Cell Biology – Bachelor of Science Honours, Double Honours, Four-year and Three-year**
Physiology and Pharmacology – Bachelor of Science Honours, Four-year and Three-year

Effective date of termination: **May 2020**

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1. List reasons for termination and describe the background leading to this decision.

The Department of Anatomy, Physiology and Pharmacology is proposing to replace the Anatomy and Cell Biology, and the Physiology & Pharmacology programs with two new programs in Biomedical Neuroscience and in Cellular, Physiological, and Pharmacological Sciences. The new programs will offer both Honours and Four-year options. A Three-year program in Biomedical Foundations is also proposed, as a replacement for the current Three-year options in each major.

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2. Technical information.

2.1 Courses offered in the program and faculty resources required for these courses.

Most of the current courses will continue to be used in the new programs; seminar and research courses built for the old majors will be replaced by similar courses built for the new majors. Faculty teaching requirements will remain virtually unchanged compared to now.

2.2 Other resources (staff, technology, physical resources, etc) used for this program.

There are no positions or other resources used in these programs that will not be used for the proposed programs.

2.3 Courses to be deleted, if any.

ACB 333.3 (Cellular Neurobiology) will be deleted, due to the retirement of David Schreyer. Much of the content from this course is covered in other courses, such as PHPY 301 and HSC 350 (each of which is to be relabeled to the “NEUR” subject code).

2.4 Number of students presently enrolled.

2018-19

Anatomy and Cell Biology: 162
Physiology & Pharmacology: 497

2.5 Number of students enrolled and graduated over the last five years.

Headcount	Anatomy and Cell Biology	Physiology and Pharmacology
2014-15	113	421
2015-16	134	484
2016-17	141	484
2017-18	148	490
2018-19	162	497

Graduates	Anatomy and Cell Biology	Physiology and Pharmacology
2015	26	147
2016	25	144
2017	33	164
2018	36	179
2019	24	145

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3. Impact of the termination.
Internal

3.1 What if any impact will this termination have on undergraduate and graduate students? How will they be advised to complete their programs?

Existing students will be allowed to complete the current program, or they may choose to switch to the new program, per Arts & Science policy.

3.2 What impact will this termination have on faculty and teaching assignments?

None. All services teaching that is currently offered will continue to be offered.

3.3 Will this termination affect other programs, departments or colleges?

No other departments or colleges will be affected. All courses offerings will remain the same, and students will still be free to take them as electives.

3.4 If courses are also to be deleted, will these deletions affect any other programs?

No effect on other programs.

3.5 Is it likely, or appropriate, that another department or college will develop a program to replace this one?

Replacement programs are being proposed concurrently.

3.6 Is it likely, or appropriate, that another department or college will develop courses to replace the ones deleted?

N/A

3.7 Describe any impact on research projects.

None.

3.8 Will this deletion affect resource areas such as library resources, physical facilities, and information technology?

No effect. Replacement programs will use the same resources as the old programs.

3.9 Describe the budgetary implications of this deletion.

Most courses remain the same or are replaced by program-focused versions. Changes to the budget should be net zero.

External

3.10 Describe any external impact (e.g. university reputation, accreditation, other institutions, high schools, community organizations, professional bodies).

The replacement of the ACB and PHPY programs with the new BMNS and CPPS programs are anticipated to enhance the university's reputation, as the new programs are anticipated to be at least as popular as the old programs.

It will be important to communicate with external stakeholders, such as high schools and regional colleges, to make potential students aware of the program changes.

3.11 Is it likely or appropriate that another educational institution will offer this program if it is deleted at the University of Saskatchewan?

Replacement programs are being proposed concurrently.

Other

3.12 Are there any other relevant impacts or considerations?

No.

3.13 Please provide any statements or opinions received about this termination.

Please see Consultation.

College Statement

From Gordon DesBrisay, Vice Dean Academic

I am pleased to confirm that the College of Arts and Science supports creation of programs in Biomedical Neuroscience and in Cellular, Physiological, and Pharmacological Sciences to replace the existing programs in Anatomy and Cell Biology and in Physiology and Pharmacology.

The College of Arts and Science is working to provide innovative program options that meet student need and demand. The merger of the Departments of Anatomy and Cell Biology; Pharmacology; and Physiology has created the opportunity for these groups of faculty to work together on these new programs. The new programs continue the tradition of offering high-quality education in these areas, but provide updated choices for students, which will allow graduates more options for future study or employment. The introduction of the “NEUR” (Neuroscience) subject code will allow these departments, and others across the university, to highlight course offerings in this area, which has been identified as one that is desired by incoming students.

The Academic Programs Committee (BSc) approved the proposals to create the new major and to delete the old majors on September 24, 2019, as did the College Faculty Council on October 10, 2019.

Program Description

Biomedical Neuroscience

The Department of Anatomy, Physiology and Pharmacology programs provide education in the discipline of neuroscience. This program includes education in many of the major topics in neuroscience including molecular and cellular neuroscience, systems and sensory neuroscience, behavioural and cognitive neuroscience, neurophysiology and neuroanatomy. Programs in Anatomy, Physiology and Pharmacology include essential prerequisite courses for life science professional schools (e.g. Medicine, Dentistry, Pharmacy and Nutrition, Veterinary Medicine) and while this program focuses on neuroscience it prepares students for graduate studies in many areas of the life sciences. Graduates at all levels find employment in academia, industry and other life science research enterprises.

The four B.Sc. degree programs listed below share a set of courses (the Biomedical Science Common Core) which are to be taken in years 1 & 2. These courses have been incorporated into the C1-C5 requirements.

Biochemistry, Microbiology & Immunology
Biomedical Foundations
Cellular, Physiological and Pharmacological Sciences
Biomedical Neuroscience

Major Average

The major average in Biomedical Neuroscience programs includes the grades earned in:

- All courses listed in the Major Requirement C4.

Residency Requirements in the Major

To receive a degree in Biomedical Neuroscience, students must complete at least two-thirds of the following coursework (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan.

- Minimum requirements in Major Requirement C4.

See Residency for additional details.

Bachelor of Science Honours (B.Sc. Honours) – Biomedical Neuroscience

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3 (recommended)

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

- PHIL 140.3

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PSY 120.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (66 credit units)

- ACB 325.3
- ACB 334.3
- ACB 405.3
- BIOL 226.3
- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3
- NEUR 350.3 (Fundamental Neuroscience)
- NEUR 432.6 (Undergraduate Research Project in Neuroscience)
- PHPY 301.3
- PHPY 304.3
- PHPY 305.3

Choose **3 credit units** from the following:

- ACB 331.3
- PHPY 308.3

Choose **3 credit units** from the following:

- BIOL 430.3
- PHPY 404.3
- PSY 448.3

Choose **6 credit units** from the following:

- PSY 242.3
- PSY 246.3
- PSY 252.3

C5 Electives Requirement (15 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Honours program, of which at least 66 must be at the 200-level or higher.

Students are advised to consider the following list of recommended electives:

- HLST 210.3
- PSY 242.3
- PSY 246.3
- PSY 252.3
- PSY 253.3
- PSY 255.3
- PSY 256.3

Bachelor of Science Four-year (B.Sc. Four-year) – Biomedical Neuroscience

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

- PHIL 140.3

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PSY 120.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (60 credit units)

- ACB 325.3
- ACB 334.3
- ACB 405.3
- BIOL 226.3
- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3
- NEUR 350.3 (Fundamental Neuroscience)
- PHPY 301.3
- PHPY 304.3
- PHPY 305.3

Choose **3 credit units** from the following:

- ACB 331.3
- PHPY 308.3

Choose **3 credit units** from the following:

- BIOL 430.3
- PHPY 404.3
- PSY 448.3

Choose **6 credit units** from the following:

- PSY 242.3
- PSY 246.3
- PSY 252.3

C5 Electives Requirement (21 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Four-year program, of which at least 66 must be at the 200-level or higher.

Students are advised to consider the following list of recommended electives:

- HLST 210.3
- PSY 242.3
- PSY 246.3
- PSY 252.3
- PSY 253.3
- PSY 255.3
- PSY 256.3

Cellular, Physiological, and Pharmacological Sciences

The Department of Anatomy, Physiology and Pharmacology programs provide education in disciplines of the anatomical sciences (cell biology, developmental biology, and gross anatomy), physiology and pharmacology. These life science disciplines provide a comprehensive understanding of the functions and mechanisms of actions of the cells and major systems of the human body, and of the effects and mode of action of chemicals which modify the major systems of the body. Programs in Biochemistry include essential prerequisite courses for life science professional schools (e.g. Medicine, Dentistry, Pharmacy and Nutrition, Veterinary Medicine) and graduate studies in many areas of the life sciences. Graduates at all levels find employment in academia, industry and other life science research enterprises.

The four B.Sc. degree programs listed below share a set of courses (the Biomedical Science Common Core) which are to be taken in years 1 & 2. These courses have been incorporated into the C1-C5 requirements.

Biochemistry, Microbiology & Immunology
Biomedical Foundations
Biomedical Neuroscience
Cellular, Physiological and Pharmacological Sciences

Major Average

The major average in Cellular, Physiological and Pharmacological Sciences programs includes the grades earned in:

- All courses listed in the Major Requirement C4.

Residency Requirements in the Major

To receive a degree in Cellular, Physiological and Pharmacological Sciences, students must complete at least two-thirds of the following coursework (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan.

- Minimum requirements in Major Requirement C4.

See Residency for additional details.

Bachelor of Science Honours (B.Sc. Honours) – Cellular, Physiological, and Pharmacological Sciences

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

Choose 3 credit units from the following areas.

Fine Arts
Humanities
Social Sciences
Courses with No Program Type

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PHIL 140.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 120.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (66 credit units)

- ACB 310.3
- ACB 325.3
- BIOL 226.3
- BMSC 200.3
- BMSC 207.3
- BMSC 208.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3
- CPPS 432.6 (Undergraduate Research Project in Cellular Physiological and Pharmacological Sciences)
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3

Choose **3 credit units** from the following:

- ACB 331.3
- PHPY 308.3

Choose **6 credit units** from the following:

- ACB 330.3
- CPPS 337.3 (Experimental Design and the Health Care System)
- NEUR 350.3 (Fundamental Neuroscience)
- PHPY 301.3

Choose **6 credit units** from the following:

- ACB 400.3
- ACB 405.3
- ACB 406.3
- NEUR 404.3 (Advances in Neurophysiology and Neuropharmacology)
- PHPY 401.3
- PHPY 403.3
- PHPY 405.3

C5 Electives Requirement (15 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Four-year program, of which at least 66 must be at the 200-level or higher.

- HLST 210.3 is recommended.

Bachelor of Science Four-year (B.Sc. Four-year) – Cellular, Physiological, and Pharmacological Sciences

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

Choose 3 credit units from the following areas.

Fine Arts
Humanities
Social Sciences
Courses with No Program Type

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3

- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PHIL 140.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 120.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (60 credit units)

- ACB 310.3
- ACB 325.3
- BIOL 226.3
- BMSC 200.3
- BMSC 207.3
- BMSC 208.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3

Choose **3 credit units** from the following:

- ACB 331.3
- PHPY 308.3

Choose **6 credit units** from the following:

- ACB 330.3
- CPPS 337.3 (Experimental Design and the Health Care System)
- NEUR 350.3 (Fundamental Neuroscience)
- PHPY 301.3

Choose **6 credit units** from the following:

- ACB 400.3
- ACB 405.3

- ACB 406.3
- NEUR 404.3 (Advances in Neurophysiology and Neuropharmacology)
- PHPY 401.3
- PHPY 403.3
- PHPY 405.3

C5 Electives Requirement (21 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Four-year program, of which at least 66 must be at the 200-level or higher.

- HLST 210.3 is recommended.

Course changes:

CPPS 337.3 replaces PHPY 402.3:

CPPS 337.3: Experimental Design and the Health Care System
This course emphasizes the application of the scientific process as it applies to basic science and clinical research, within the context of the Canadian health care system. Students will be exposed to basic principles of experimental design, principles of critical appraisal and evidence-based medicine, and the basic structure of the Canadian health care system, including regulations governing drug discovery and evaluation.

Weekly hours: 3 Lecture hours
Prerequisite(s): PHSI 208.6; or BMSC 207.3 and BMSC 208.3.

PHPY 402.3: Therapeutics Herbal Compounds and Evidence Based Medicine

Using case studies, this course provides an introduction to evidence based practices in the Health Sciences. The types and components of clinical studies and related issues of scientific validity, reliability and safety are discussed in relation to the development and use of drugs and herbal compounds.

Weekly hours: 3 Lecture hours
Prerequisite(s): PHPY 304.3 and 305.3, or permission of the Instructor.

CPPS 405.3 and NEUR 405.3 replace ACB 405.3:

CPPS 405.3: Current Topics in Cellular Physiological and Pharmacological Sciences

Leading edge and state-of-the-art research will be examined in a seminar-discussion format where students will present and assess selected publications from the current scientific literature on a variety of topics related to Cell Biology, Physiology, and Pharmacology.

Weekly hours: 1 Lecture hours and 2 Seminar/Discussion hours
Prerequisite(s): 9 credit units from ACB 325, PHPY 302, PHPY 303, PHPY 304 or PHPY 405.

NEUR 405.3: Current Topics in Neuroscience

Leading edge and state-of-the-art research will be examined in a seminar-discussion format where students will present and assess selected publications from the current scientific literature on a variety of topics related to Neuroscience.

Weekly hours: 3 Seminar hours
Prerequisite(s): 9 cu from ACB 325, ACB 334, PHPY 301, HSC 350 or PSY 242.

ACB 405.3: Current Topics in Cell Biology

Recent developments and the state of the art of cell biology research will be examined in a seminar-discussion format. Students will present and evaluate selected publications from the current literature on a variety of topics related to cell biology.

Weekly hours: 1 Lecture hours and 2 Seminar/Discussion hours
Prerequisite(s): ACB 325.3 and 330.3.

CPPS 432.6 and NEUR 432.6 replace ACB 401.6 and PHPY 432.6:

CPPS 432.6: Undergraduate Research Project in Cellular Physiological and Pharmacological Sciences

A course in which fourth-year students undertake an experimental research project in a selected area of cell biology, physiology, or pharmacology. The student research projects are directly supervised by a faculty member from the Department of Anatomy, Physiology, and Physiology. Students acquire hands-on experience in modern experimental techniques and approaches in the specific topic area of their project. Course evaluation is based on oral and poster presentations, a written research report, student effort, and laboratory performance. CPPS 432 is requirement for all students in the Honours CPPS degree program. However, non-honours CPPS students may request approval for CPPS 432 provided they have found a faculty member willing to supervise their research project.

Weekly hours: 3 Lecture hours and 8 Research hours
Permission of the department required.

NEUR 432.6: Undergraduate Research Project in Neuroscience

A course in which fourth-year students undertake an experimental research project in a selected area of the neurosciences. The student research projects are directly supervised by a faculty member from the Department of Anatomy, Physiology, and Physiology. Students acquire hands-on experience in modern experimental techniques and approaches in the specific topic area of their project. Course evaluation is based on oral and poster presentations, a written research report, student effort, and laboratory performance. NEUR 432 is requirement for all students in the Honours NEUR degree program. However, non-honours NEUR students may request approval for NEUR 432 provided they have found a faculty member willing to supervise their research project.

Weekly hours: 3 Lecture hours and 8 Research hours
Permission of the department required.

ACB 401.6: Undergraduate Research Project

A course in which fourth-year students undertake an experimental research project under the direct supervision of an ACB faculty member. Students acquire hands-on experience in modern experimental techniques and approaches in the cellular and anatomical sciences. Course evaluation is based on oral and poster presentations, a written research report, and student initiative. This course is strongly recommended for students in the Honours Anatomy and Cell Biology program, and is optional for students in the 4-year ACB degree program.

Weekly hours: 6 Practicum/Lab hours
Permission of the department required.

PHPY 432.6: Research Project in Physiology and Pharmacology

Advanced work in a selected area of physiology and pharmacology. This normally consists of a laboratory research project done under the direct supervision of a Faculty Advisor.

Weekly hours: 10 Practicum/Lab hours
Formerly: PHSI 432.6
Prerequisite(s): PHPY 308.3, or permission of the instructor.
Note: Students with credit for PHSI 432.6 cannot take this course for credit.

ACB 334.3 (Introductory Neuroanatomy), HSC 350.3 (Fundamental Neuroscience), PHPY 301.3 (Fundamental Neuroscience Intercellular Communication), and PHPY 404.3 (Advances in Neurophysiology and Neuropharmacology) are each to be relabelled to the **NEUR** subject code.

Consultation and Correspondence:

Biomedical Neuroscience

Kinesiology

From: Kowalski, Kent <kent.kowalski@usask.ca>
Sent: Tuesday, August 27, 2019 8:35 AM
To: Dahl, Alexis <alexis.dahl@usask.ca>; challenge.coordinator@artsandscience.usask.ca
Cc: Napper, Scott <scott.napper@usask.ca>; London, Chad <chad.london@usask.ca>; Farthing, Jon <jon.farthing@usask.ca>; Oates, Alison <alison.oates@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>
Subject: B.Sc. Neuroscience Program Proposal Feedback

Hi Alexis (and Scott and Dawn),

Thank you for the opportunity to review and provide feedback on the proposed undergraduate B.Sc. in Neuroscience program. Most importantly, we support the strategy to reach out to the College of Kinesiology, as we support and are excited about the development of a formalized undergraduate neuroscience program at Usask and look forward to future collaborations. In terms of the specific proposal details:

- We appreciate being part of the consultations, even though relatively late in the process, and feel that it would have been an oversight to not include the College of Kinesiology because of our current strengths in the area
- We agree there is potential benefit to including three of our courses as electives in the program (KIN 322, Motor Learning and Control; KIN 498: Motor Control of Neurological Conditions; a planned Neuromuscular course) as this could lead to students being interested in Neuroscience from a KIN perspective as it relates to future graduate programming. Further, it relays the message that neuroscience "lives" in KIN.
- We share the concerns voiced by others on campus that the program isn't broad enough, particularly as it relates to cognitive (Psych) and motor systems (KIN). The program seems heavily weighted towards Biomedical Neuroscience or bench neuroscience, and does not seem to reflect the breadth of neuroscience at Usask. Perhaps it could be broadened in the future.
- Without an intimate knowledge of the all course content, we browsed through a few of the course outlines included in the program proposal (some of the links were dead) and wonder about the total amount of motor systems neuroscience content. For example, NEUR 350.3 (Fundamental Neuroscience) includes only one lecture on Motor Control.
- The program proposal describes one potential impact of the program as: "…the Neuroscience program utilizes a variety of neuroscience-related courses of Psychology and Biology which will have enrollment benefits, attract attention to their neuroscience courses and faculty, and represent the ideal of different departments and colleges working together towards a common academic goal. It is hoped that this spirit of collaboration will evolve into a cross-campus Graduate Program in Neuroscience." However, if one potential goal is to develop as cross-campus Graduate Program in Neuroscience, we recommend starting with a broad interdisciplinary approach.
- Ultimately, we support KIN Neuro courses (perhaps using the cross-list NEUR as suggested by others) in the program as electives, but would like to recommend more interdisciplinary programming be adopted. The KIN courses are not officially included as

electives in the current version of the proposal (as we might have been consulted too late in the process for them to be considered). However, if KIN courses can be included, we recommend that edit. If it's too late, we suggest following up to ensure KIN courses are included in subsequent iterations. Perhaps KIN could have a representative (Alison Oates or Jon Farthing) on any working groups that are evaluating the new program.

Overall, although we are supportive of the program in principle, we feel it could be further strengthen by increased cross-campus consultation and collaboration.

Thank you for your work in putting this proposal together. As mentioned, we are excited by the potential of a neuroscience program and look forward to future collaborations. If you have any questions, please feel free to let us know.

Kent

Kent Kowalski, Ph.D.
Associate Dean Academic
PAC 300.4
College of Kinesiology
P: (306) 966–1079
kinesiology.usask.ca

From: Dahl, Alexis <alexis.dahl@usask.ca>
Sent: Tuesday, August 27, 2019 10:54 AM
To: Kowalski, Kent <kent.kowalski@usask.ca>; challenge.coordinator@artsandscience.usask.ca
Cc: Napper, Scott <scott.napper@usask.ca>; London, Chad <chad.london@usask.ca>; Farthing, Jon <jon.farthing@usask.ca>; Oates, Alison <alison.oates@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>
Subject: RE: B.Sc. Neuroscience Program Proposal Feedback

Hi Kent,

Thank you for your feedback on this proposal. As you have indicated that you support the program, in principle, the suggestions which you have submitted will be shared at all levels as part of the approval process, but will not be interpreted to be a "challenge" which requires resolution prior to moving forward.

It is at the discretion of the proposers whether to add one or more of the KIN courses to the program at this time, but should they wish to do so, the change can still be made. (Special Topics courses (X98/X99) cannot be explicitly added to program requirements, but such courses can be considered as exceptions, or added once the course is regularized with a permanent number.)

Please let me know if you have questions!

Kind regards,
Alexis

Alexis Dahl, B.Ed., B.Sc.
Director, Programs Office
College of Arts & Science | University of Saskatchewan
P. (306) 966-4247

From: Dahl, Alexis <alexis.dahl@usask.ca>
Sent: Thursday, September 12, 2019 11:15 AM
To: Kowalski, Kent <kent.kowalski@usask.ca>
Cc: Napper, Scott <scott.napper@usask.ca>; London, Chad <chad.london@usask.ca>; Farthing, Jon <jon.farthing@usask.ca>; Oates, Alison <alison.oates@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>
Subject: RE: B.Sc. Neuroscience Program Proposal Feedback

Hi Kent,

Please find attached the response to your feedback, from the proposers.

Kind regards,
Alexis

Attachment:

Hi Kent,

We would like to thank you and your faculty for reviewing and providing feedback on our proposed undergraduate major in Neuroscience. We are sorry consultation seemingly occurred so late in the process but initially we were under the impression that the proposed programs would not be submitted until the summer of 2020 and so thought Departmental and College consultations would take place over the 2019-2020 academic year. These programs were expedited because the College of Arts and Science required that all programs change to a new program template for 2020-2021, and rather than overhaul our program requirements two years in a row, it was suggested by the College that we submit our new programs at the same time the new templates would be implemented.

We share your concern regarding the breadth of cognitive neuroscience in the proposed program and have made revisions to address this issue that have been agreed upon by the Department of Psychology. The program has been revised to reflect the following; 6 CU's of cognitive psychology are required from a list of three possible courses chosen by the Department of Psychology, the Advanced Seminar in Neuroscience (PSY 448) has been made an option to fourth year students in the program and we have listed additional psychology courses as recommended electives in C5 (open electives).

Faculty involved in the proposed Neuroscience program are excited at the possibility of adding courses from your College and increasing the breadth of the program. We thought the

meeting with Dr. Oates went very well and would be happy if Dr. Oates and/or Dr. Farthing would consider consulting further on the program and work with our faculty to include relevant, and accessible, courses from your College. We are highly in favour of increasing the number of upper year Neuroscience courses available, to allow students to focus on neuroscience topics they find most interesting. We anticipate that the program requirements will evolve over time, and look forward to working with you to add these courses for future program years (as early as 2021-22).

We also hope the spirit of collaboration continues on in the form of a graduate program in neuroscience, with branches to additional Colleges not included in the undergraduate proposal, such as the College of Pharmacy and Nutrition, and the Western College of Veterinary Medicine. Faculty in our department are happy to continue collaborations with your and other Colleges interested in this goal.

Thank you again for your input. We will continue to be in contact with Dr. Oates, Dr. Farthing and yourself as we work to improve this proposed program.

Respectfully submitted,

Thomas Fisher, Department Head APP

Scott Napper, BMSC Project Lead

From: Kowalski, Kent <kent.kowalski@usask.ca>
Sent: September 12, 2019 1:06 PM
To: Dahl, Alexis <alexis.dahl@usask.ca>
Cc: Napper, Scott <scott.napper@usask.ca>; London, Chad <chad.london@usask.ca>; Farthing, Jon <jon.farthing@usask.ca>; Oates, Alison <alison.oates@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>
Subject: RE: B.Sc. Neuroscience Program Proposal Feedback

Hi Alexis,

Thanks so much for sending this along (and to Thomas and Scott for the response). I fully support continuing to be in contact with Jon Farthing and Alison Oats in particular, as I know they are both excited by the potential for the development of neuroscience on campus and would welcome further collaborations. I'm happy to stay connected as needed as well.

Thanks again.

Kent

From: Napper, Scott <scott.napper@usask.ca>
Sent: Thursday, September 12, 2019 1:26 PM
To: Kowalski, Kent <kent.kowalski@usask.ca>; Dahl, Alexis <alexis.dahl@usask.ca>
Cc: London, Chad <chad.london@usask.ca>; Farthing, Jon <jon.farthing@usask.ca>; Oates, Alison <alison.oates@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>
Subject: Re: B.Sc. Neuroscience Program Proposal Feedback

Kent,

Thanks for the support and enthusiasm. I think this is going to be an excellent program for students and a wonderful opportunity for cross-campus collaborations.

We look forward to working with Kinesiology on this effort.

Scott

Dr. Scott Napper
Professor, College of Medicine, Department of Biochemistry, Microbiology & Immunology
Senior Research Scientist, Vaccine and Infectious Disease Organization-International Vaccine Research Centre
University of Saskatchewan
(306) 966-1546

Biology

On Aug 30, 2019, at 12:31 PM, Wilson, Ken <ken.wilson@usask.ca> wrote:

Hi Alexis

Below are some comments on the latest course challenge proposal from the BMSC Departments.
Sorry for getting this to you after the deadline. I was away from campus and am just getting caught up on the things I missed.

If you have any questions about our comments, please let me know.
I hope you have a great long weekend
Ken

--
Dr. Kenneth Wilson
Head, Department of Biology
University of Saskatchewan
Saskatoon SK S7N 5E2
Canada

ph# - 1-306-966-4400

Department of Biology comments regarding the August 2019 College Challenge Proposal from the BMSC departments

1. General comments about the new program in Neuroscience:

On behalf of the Department of Biology, I want to thank the proponents of the Neuroscience program for meeting with members of our department to discuss their plans and the reasoning for their approach. We think that the concept of the Neuroscience program has the potential to attract new students to an exciting emerging field of human and animal health/science. I appreciate that the proponents of the program are located in the College of Medicine and hence have a focus on human health, however in my opinion they are missing some excellent opportunities to help students connect human neurobiology to its evolutionary roots. The nervous system has a complex evolutionary history that top neurobiology research exploits to better understand how mammalian brains function. Thus, courses that focus exclusively on human body systems seem overly targeted, especially at the 200-level. There are no courses in diversity or broader-based animal functional biology.

The Department of Biology has several courses where fundamental aspects of neuroscience are taught from a broader perspective. For example, BIOL 317 (focused on the origin, evolution and application of bioelectric phenomena in animals) , BIOL 318 (details animal organ system regulation via the nervous and endocrine systems), BIOL 436 (includes parasitic modulation of animal behaviour), and BIOL 472 (animal behaviour) all could possibly find a place within a Neuroscience program. We note that when senior courses from cognate disciplines like Biology (e.g. BIOL 430) are listed in the current program proposal, they are done as a list of elective options. As a result, the chance of a student studying neuroscience from anything other than a human-centered perspective is low.

To facilitate increased inter-/multi-disciplinarity, I would like to see greater flexibility in the program with regards to course prerequisites. Siloing the program using a long list of BMSC courses to limit student access to senior courses does a disservice to the diverse group of students who call the College of Arts and Science home. I think that the program would be strengthened and numbers of students taking the specialized courses would be increased if students majoring in other programs and colleges were able to take some of the courses. To truly hit the UofS targets for interdisciplinary, this program needs to offer greater flexibility for students to sample parts of the program. This could be done easily if the proponents worked with other units offering courses that deal with neurosceince and basic animal functional biology, rather than telling us their plans as a form of consultation immediately prior to submission.

2. The proposed Course BMSC 320 – Nucleic acids to Human Disease currently has prerequisites of BMSC 210 and BMSC 220. Based on the topics outlined in the proposed syllabus we see this as an extension of concepts that are introduced in BIOL 226 - Genes to Genomes, and suggest that BIOL 226 be considered as an alternate prerequisite to BMSC 220. This would actually increase flexibility for students in the new proposed four-year and

honours programs; BIOL 226 is already a C4 requirement or C4 elective in these degrees and this would increase their options for switching programs. This should have no negative impact to the program as described and would open up BMSC 320 to a greater diversity of students. This also would be in keeping with the use of BIOL 226 as an alternate to BMSC 220 in the proposed course BMIS 340 (see below).

We do not see BMSC 320 as being equivalent to BIOL 226.3. BIOL 226.3 includes the concepts of inheritance of genes and alleles and includes population genetics, which provides the fundamental basis for understanding how rare disease alleles persist in human populations. We note that in the 3 year program students may take either BMSC 320.3 or BIOL 226.3 and note the discrepancy in coverage of topics and level of instruction.

3. Proposed Course BMIS 340 Introductory Molecular Biology. We note that BIOL 226.3 is an alternate prerequisite with BMSC 220 for the BMIS 340 course, but seek clarification. It is listed on the form as BMSC 240.3; BMSC 210.3; and BMSC 220.3 or BIOL 226.3. In the proposed syllabus it is listed as BMSC 240.3, BMSC 210.3, and BMSC 220.3 or BIOL 226.3 (commas instead of semicolons). It is unclear if BIOL 226.3 is meant to be a standalone prerequisite or an alternative to BMSC 220.3. We suspect the latter since "one of BMSC 220.3 or BIOL 226.3" was one of the prerequisites to BIOC 311 proposed for deletion.

4. The note for the proposed split course BMSC 207 and 208 rolls over (more or less) a description of the current relationship between BIOL 224 and PHSI 208.6. The Department of Biology has not been consulted about these notes or asked for our opinion on the "for credit" relationship between the three half courses. Extensive consultation occurred at the time the notes were originally added to the BIOL 224.3 and PHSI 208.6 course descriptions. These consultations included the various departments plus representatives from the College undergraduate advising office.

The Department of Biology is of the opinion that the split of PHSI 208 into two half courses provides an opportunity to revisit the notes in the various courses. We suggest that consultation take place on this issue that includes the undergraduate advising office. For example, it might be possible to allow credit for both BIOL 224 and the proposed BMSC 207 course (while retaining the proposed note in BMSC 208). We suspect something like this might increase student flexibility and create a situation where it is easier to advise students. The Department of Biology will also need to consult with some other Colleges about their views on the note in BIOL 224.

On 8/30/2019 2:29 PM, Dahl, Alexis wrote:

Hi Ken,

I will pass these comments on to the proposers. So that I am clear on how to proceed, can you please clarify whether these comments are "suggestions", or constitute a "challenge" to the proposed Neuroscience program. If the first, the proposers will be asked to consider them, but will not be required to communicate with you or make any changes. If the second, the proposers will need to communicate with you to seek a resolution, and if none can be reached, the APC (BSc) will consider the challenge, determine its merit, and decide whether changes are necessary.

Thanks,

Alexis

Sent from my iPad

From: Wilson, Ken <ken.wilson@usask.ca>
Sent: Friday, August 30, 2019 3:58 PM
To: Dahl, Alexis <alexis.dahl@usask.ca>
Cc: Marchant, Tracy <tracy.marchant@usask.ca>
Subject: Re: Comments on the Neuroscience Program Proposal from Biology

Hi Alexis

I would like these to be considered challenges.

Thanks for checking
Ken

From: Dahl, Alexis
Sent: Thursday, September 12, 2019 11:20 AM
To: Wilson, Ken <ken.wilson@usask.ca>; Marchant, Tracy <tracy.marchant@usask.ca>
Subject: RE: Comments on the Neuroscience Program Proposal from Biology

Hi Ken,

Attached please find the response from the proposers. Please let me know as soon as possible if this response resolves your challenge, and if not, which issue(s) are still outstanding.

Kind regards,

Alexis

Attachment:

Hello Ken,

We would like to thank you and your faculty for reviewing and providing feedback on our proposed undergraduate program in Neuroscience. We are sorry that our consultation with you occurred so late in the process but we were initially under the impression that the proposed programs would not be submitted until the summer of 2020 and so thought Departmental and College consultations would take place over the 2019-2020 academic year. These programs were expedited because as you know the College of Arts and Science required all departments to change their current programs from a C1-C7

program template to a C1-C5 program template and rather than overhaul our program requirements two years in a row, it was suggested by the College that we submit our new programs at the same time the new template would be implemented.

We will address each of your concerns in the order which they were stated.

Comment 1: The neuroscience major we have proposed is built on the existing BMSC platform. A key component of this platform is the six credit units of physiology that is required of all BMSC students and is necessary for students to succeed in our 300-level courses. At the request of the University the former single six credit unit course (PHSI 208.6) is being split into two three credit unit courses (BMSC 207.3 and BMSC 208.3) and both courses will be required for all BMSC students. In the context of our neuroscience major, BMSC 207.3 is particularly important because it begins with approximately 16 hours of core neuroscience content (membrane dynamics, cellular electrophysiology, nervous system structure and function) and nervous system control of organ system functioning is a central theme in the remainder of BMSC 207.3 and in (BMSC 208.3). We feel that the 16 hours of nervous system content covered in BMSC 207.3 is absolutely necessary for students to succeed in our subsequent neuroscience courses (PHPY 301, HSC 350 and ACB 334).

Although our department is located within the College of Medicine and our programs do have a human focus, we agree that it would be very difficult to teach neuroscience without discussing its evolutionary roots and including relevant research from vertebrate and invertebrate models. Many courses within our proposed program (PHPY 301, HSC 350, PHPY 404) include historical findings as well as recent discoveries in a variety of animals including giant squid, mollusks, zebra fish, flies, rodents and primates.

Regarding the inclusion of additional Biology courses into the proposed Neuroscience program our thoughts are as follows:

BIOL 317 - Fundamentals of Animal Physiology: Our students will take more than 50 hours of cellular neuroscience in BMSC 207.3 and PHPY 301 and 38 hours of systems neuroscience in HSC 350 therefore we do not think our students will be exposed to new content by taking BIOL 317. We asked four faculty members involved in our current neuroscience courses to independently review the syllabus for BIOL 317 and all agreed that while this course does contain fundamental aspects of neuroscience, all of these topics are covered in PHSI 208.6, PHPY 301 and HSC 350. To avoid redundancy in the program all faculty suggested that this course not be included.

BIOL 318 - Comparative Animal Physiology and BIOL 436 - Animal Parasitology: The syllabi of these courses make no mention of the nervous system and while nervous system control of organ systems is important, it covered extensively in PHSI 208.6, PHPY 302.3 and PHPY 303.3, with the latter two courses existing as potential electives for our students.

BIOL 472 - Animal Behaviour: We would be interested in further discussion regarding but currently it has extensive prerequisite requirements that our students would not be able meet. BIOL 472 requires BIOL 228 and 6 additional CU’s of senior Biology. Including these 9 prerequisite courses into our current program is simply not feasible.

In the proposed program, we give students the option to choose from a list of neuroscience courses including PHPY 404.3 Advances in Neurophysiology and Neuropharmacology, PSY 448.3 Advanced Seminar in Neuroscience and BIOL 430.3 Neurobiology of Behaviour. Two courses from the College of Kinesiology will also likely be added to this list in future program challenges. Offering all of these courses as options adds breadth to the program and give students the opportunity to choose and focus on an area of neuroscience that interests them. Students will not be advised to take a particular course, it will be left entirely up to them.

We agree that we should strive to facilitate students in other programs to enroll in our courses. We will therefore change the prerequisite requirements for PHPY 301 and HSC 350 to read as follows: “BMSC 207.3 OR BIOL 317.3”. This will open these courses up to Biology students to be taken as electives. To further increase courses available to Biology students we will also expand the prerequisite requirements for PHPY 302 and PHPY 303 to read “BMSC 207.3 and BMSC 208.3 OR BIOL 317.3 and BIOL 318.3”. These changes will open PHPY 301, PHPY 302, PHPY 303 and HSC 350 to your students in addition to PHPY 304 which currently accepts BIOL 224 as a prerequisite.

Comment 2 - regarding the concern that the prerequisite requirements for BMIS 320 are overly restrictive, prohibiting students from outside the biomedical science disciplines from taking this class: The suggestion is offered that BIOL226 should be allowed as an alternate to the current prerequisite of BMSC 220. This is an excellent suggestion. We are confident that BIOL 226 would be equivalent preparation as BMSC 220 for BMIS 320. This change in prerequisite requirements is expected to increase accessibility, enrollment, and academic diversify of the class.

Comment 3 - request for clarification of the prerequisite requirements for BMIS 340, specifically whether BIOL226 is an acceptable prerequisite alternative for BMSC220: Yes, for entry into BMIS 340 a student would require both BMSC210 and BMSC240 as well as either BMSC220 or BIOL226. Similar to our response to comment 2, our desire is to provide the greatest flexibility possible for entry into the class.

Comment 4: As mentioned above PHSI 208.6 is being split to BMSC 207.3 and BMSC 208.3 to meet University recommendations regarding the new registration system. We did not consider changing the current note, because the course content in BMSC 207.3 and 208.3 will be essentially unchanged from that in PHSI 208.6 and our students will need both to enter and succeed in our third-year courses. We would however be open to changing the note to allow Biology students to take BMSC 207.3 and BIOL 224.3 concurrently, if Biology would like this change to occur. This would allow biology students to take BMSC 207 in their second year, enabling them to take PHPY 301 and/or HSC 350 in their third year. We would be happy to discuss this possibility further.

Respectfully submitted,

Thomas Fisher, Department Head APP

Scott Napper, BMSC Project Lead

-----Original Message-----
From: Wilson, Ken <ken.wilson@usask.ca>
Sent: Friday, September 20, 2019 2:15 PM
To: Dahl, Alexis <alexis.dahl@usask.ca>
Cc: Marchant, Tracy <tracy.marchant@usask.ca>; Prime, Steven <steve.prime@usask.ca>
Subject: Biology Response to the Neuroscience Program

From Biology: regarding response received to our challenge of August 2019 program and course proposals:

Dear Members of the Academic Program Committee for the College of Arts and Science:

We want to thank Drs. Fisher and Napper for positively considering the changes/clarification we suggested to the various course prerequisites under Comments 2 and 3. We believe this will ensure student access to the proposed BMIS 320 and 340 courses. Changes to the Note for the proposed BMSC 207 and 208, and BIOL 224 are needed but we continue to suggest that this be made in consultation with the Undergraduate Advising Office Staff who deal with students directly affected by these notes. Does the proposed change solve any problems currently seen by the undergraduate advisors? Input on this question would be useful.

Our initial challenge to the Neuroscience Program Proposal put forward by Dr. Napper's Team was largely concerned with its narrow focus. The proposal write up spoke to the UofS Plan 2025 and the goals of greater interdisciplinarity and collaboration. Yet, the proposal and the reply to our concerns make it clear that the goal is to develop a BMSC program that will funnel students from the common 2-year program into a Neuroscience Degree. Despite combining three small and very similar departments into one unit, this does not make for an interdisciplinary approach. The proposed program does not clearly differentiate itself from the other BMSC programs, simply by changing the title. While the proponents of the program are housed in the College of Medicine, they should be aware of the College of Arts and Sciences Plan where we espouse the strength that is inherent in developing programs that span departmental and disciplinary boundaries. There is no intention evident from the proposal, nor the response to our challenge, to develop an interdisciplinary program. If there was, it would have been developed with the involvement of faculty from the Colleges of Arts and Science, Veterinary Medicine, Agriculture and Bioresources, Kinesiology, and Pharmacy and Nutrition. There are many examples of Neuroscience Programs in Canada. Two excellent ones are at the University of Toronto and Dalhousie University. Both have very broad, and truly interdisciplinary themes. The Neuroscience program outlined here is one dimensional in comparison.

In the response from Drs. Fisher and Napper to our challenge regarding the neuroscience proposal, the same type of approach was taken. Rather than contact us to

work on a common way forward in a collegial manner, they took the simplistic linear approach of rebutting our comments and attempting to dismiss them out of hand. We may have struggled to form an effective compromise, however no attempt was made. We were looking for a mechanism by which students enrolled in a BIOL program could enroll in various senior PHPY and HSC 350 courses. Instead, the proposed changes decrease the chances that a BIOL student could do so. The suggested prerequisite change for HSC 350 is highly problematic. Currently, the prerequisites are listed in the course catalogue as *"BIOL 224.3 or PHSI 208.6, or permission of the instructor."* The changes suggested in the letter from Drs. Fisher and Napper would increase the prerequisite requirement to "BMSC 207.3 OR BIOL 317.3". Biology students would in fact need to take 6 cu of BIOL courses to meet these new proposed prerequisites, whereas students from the BMSC streams would need only a 3 cu prerequisite. We all believe that our own courses are the best and uniquely qualify our students to move into specialized upper-year, discipline-specific courses taught in our units. This should not be the objective of an interdisciplinary program.

Returning to our challenge regarding the original neuroscience proposal, Drs. Fisher and Napper get caught in a paradox. They suggest reasons why various BIOL courses are not suitable for inclusion in the Neuroscience program and exclude students via prerequisites, but then explain that allowing both PHPY and BIOL courses to be taken for credit in the program would be redundant. For example, in writing about BIOL 317, Drs. Fisher and Napper conclude that "*To avoid redundancy in the program all faculty suggested that this course not be included."* In writing about BIOL 318, it was noted that "*nervous system control of organ systems is important, it is covered extensively in PHSI 208.6, PHPY 302.3 and PHPY 303.3."* In the opinion of the Department of Biology, responses such as this reinforce the point that there are courses from other disciplines from which a pathway through to an interdisciplinary Neuroscience Program can be built.

The Department of Biology continues to see the proposed program as narrowly constructed and reflective of the siloed approach to program delivery that we are moving away from at USask. This is unnecessary given the range of neuroscience expertise available on the USask campus. We request that the Academic Programs Committee place the current Neuroscience Program proposal on hold until a serious effort is made to develop a true inter- /multi-disciplinary Neuroscience Program proposal. A program of which the College of Arts and Science and indeed the University of Saskatchewan can be proud to offer.

Sincerely,

Kenneth Wilson
Head, Department of Biology

See final response from Thom Fisher at the end of the consultation.

Psychology

From: Prime, Steven <steve.prime@usask.ca>
Sent: Monday, August 26, 2019 8:20 AM
To: challenge.coordinator@artsandscience.usask.ca
Cc: Borowsky, Ron <ron.borowsky@usask.ca>; Mickleborough, Marla <marla.mick@usask.ca>; Loehr, Janeen <janeen.loehr@usask.ca>; Elias, Lorin <lorin.elias@usask.ca>
Subject: challenge to proposed Neuroscience program

Dear Academic Programs Committee

I am emailing as the Cognition and Neuroscience Graduate Program coordinator on behalf of our neuroscience faculty in the Department of Psychology (cc'ed on this email). We respectfully submit a challenge regarding the proposed new Neuroscience program offered by the Department of Anatomy, Physiology, and Pharmacology.

Our principal concern is that the proposed neuroscience program is focused primarily on biomedical neuroscience and does not provide an appropriate amount of exposure to other areas of neuroscience - specifically, cognitive neuroscience and neuropsychology, as would be expected in all major Canadian Neuroscience programs (e.g., see University of Calgary for one example, and we would encourage the proponents to take a look at the other U15 Neuroscience programs as well).

As part of the proposed credit requirements, the proposal states that students are required to take PSY 120.3 and they may choose three credits from a list of three 3-credit Psychology courses (i.e., 242.3, 246.3, 252.3). In the four-year BSc (non-honours program), that list includes NEUR 432.6 (research project). Conceivably, students might only take one Psychology course (the required 120.3). We do not believe that PSY120.3 alone would provide students with sufficient exposure to cognitive neuroscience and neuropsychology. As discussed with the proponents at a previous meeting, we recommend that students be required to choose two of the 3-credit 200-level Psychology courses listed as well as keep the recommendation to take PSY 448 (Advanced Seminar in Neuroscience). We believe students would benefit with an appropriate amount of in depth exposure to the neuroscience we do in Psychology.

Given our previous discussion with the biomedical sciences, we believe these suggestions are feasible revisions for the Neuroscience program. We suggest that if the proponents are unable or unwilling to make these changes (i.e., require PSY 120 and at least two of 242, 246, 252), then we do not think it would be appropriate to refer to this program as a "Neuroscience" degree program (and particularly so if other cognate units also feel that sufficient neuroscience breadth is lacking), but could be referred to as something more specific such as a "Biomedical Neuroscience" degree program.

Respectfully submitted

Steve Prime

Dr Steve Prime
Department of Psychology

University of Saskatchewan
Saskatoon, Canada
(e) steve.prime@usask.ca
(t) 306-966-8106

Neurocognition & Psychophysics Lab:
www.neurocognitionlab.com

From: Dahl, Alexis
Sent: Monday, August 26, 2019 10:11 AM
To: Prime, Steven <steve.prime@usask.ca>; challenge.coordinator@artsandscience.usask.ca
Cc: Borowsky, Ron <ron.borowsky@usask.ca>; Mickleborough, Marla <marla.mick@usask.ca>; Loehr, Janeen <janeen.loehr@usask.ca>; Elias, Lorin <lorin.elias@usask.ca>
Subject: RE: challenge to proposed Neuroscience program

Hi Steven,

I have received this challenge and will share it with the proposers, with encouragement to contact you (and the group cc'd) to reach a resolution together. If that is not possible, the committee will consider the challenge, and determine whether changes to the proposal are required, and if so, what changes are required.

Kind regards,
Alexis

From: Dahl, Alexis
Sent: Monday, August 26, 2019 10:17 AM
To: Napper, Scott <scott.napper@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>; Fisher, Thomas <thomas.fisher@usask.ca>
Subject: FW: challenge to proposed Neuroscience program

Hello Dawn, Scott, and Thom,

Below is a challenge received to the Neuroscience program proposal.

You are encouraged to communicate with the group submitting the challenge, to determine if a mutually agreeable resolution is available. If this is the case, you will need to let me know what to change in the proposal, and they will need to send an indication that they are satisfied with that change. If no resolution is reached, the committee will consider the challenge, and determine whether a change is required, and if so, what change is required in order for the proposal to move forward.

Please let me know if you have questions,
Alexis

From: "Dahl, Alexis" <alexis.dahl@usask.ca>
Date: Thursday, September 12, 2019 at 11:13 AM
To: Steven Prime <steve.prime@usask.ca>
Cc: "Borowsky, Ron" <ron.borowsky@usask.ca>, "Mickleborough, Marla" <marla.mick@usask.ca>,

"Loehr, Janeen" <janeen.loehr@usask.ca>, "Elias, Lorin" <lorin.elias@usask.ca>
Subject: RE: challenge to proposed Neuroscience program

Hi Steven,

Attached please find the response from the proposers. Please let me know if this response resolves your challenge, and if not, what issue(s) are still outstanding.

Kind regards,
Alexis

P.S. The program requirements in the form have yet to be updated with the changes, but this will be done before the committee considers the program for approval.

Attachment:

> Hello Steve,
>
> Thank you for reviewing our proposed undergraduate major in Neuroscience. We agree that 6 CU of PSY courses is required, and our intent had been to include 6 CU. This was a typo/error in the transfer of the courses from the spreadsheet into the course submission. In fact, we should have caught this error since the total CU did not add up in the submission.
>
> Regarding the inclusion of the NEUR 432.6 research project as part of the list of three 3-credit Psychology courses in the four-year BSc: We agree to remove NEUR 432.6 from the list so that students will have the choice of 3-credit units from PSY 242.3, 246.3 and 252.3.
>
> Thank you again for your input.
>
> Respectfully submitted,
>
> Thomas Fisher, Department Head APP
>
> Scott Napper, BMSC Project Lead

From: Prime, Steven <steve.prime@usask.ca>
Sent: Thursday, September 12, 2019 11:22 AM
To: Dahl, Alexis <alexis.dahl@usask.ca>
Cc: Borowsky, Ron <ron.borowsky@usask.ca>; Mickleborough, Marla <marla.mick@usask.ca>; Loehr, Janeen <janeen.loehr@usask.ca>; Elias, Lorin <lorin.elias@usask.ca>
Subject: Re: challenge to proposed Neuroscience program

Thank you Alexis

We will review it and respond to you as soon as possible.

Best

Steve

From: Dahl, Alexis
Sent: Friday, September 20, 2019 2:24 PM
To: Napper, Scott <scott.napper@usask.ca>; Giesbrecht, Dawn <dawn.giesbrecht@usask.ca>; Fisher, Thomas <thomas.fisher@usask.ca>
Subject: Response from Psychology - Neuroscience

Hi Dawn, Scott and Thom,

Psychology has considered your response to their challenge to the Neuroscience program proposal, and Dr. Steven Prime has returned the following response on their behalf:

We thank the proponents very much for making the recommended changes in response to our challenge (i.e., 6 credit units from PSY 242.3, 246.3, and 252.3 while removing NEUR 432.6). We are very grateful that students would be sure to acquire a greater breadth in their neuroscience training by taking these Psychology courses. We would also like to re-emphasize another point in our challenge which is that we believe any neuroscience program should provide an appropriate amount of breadth to truly represent the interdisciplinary nature of neuroscience. The proponents must address the need for interdisciplinarity and breadth in a U15 Neuroscience program and should accept the recommendations from other cognate units (e.g., Biology and Kinesiology). As we stated in our challenge, if the proponents are not willing or able to implement such recommendations for interdisciplinarity and breadth, we cannot support calling this program “Neuroscience”, and the proponents could refer to the proposed program as “Biomedical Neuroscience”.

The Academic Programs Committee (BSc) meets on Tuesday afternoon, and will see the record of challenge/responses. If you have a response to add to this, please send it by Monday at 4:00pm.

Thanks,

Alexis

Final response from Thom Fisher to Biology and Psychology

From: Fisher, Thomas <thomas.fisher@usask.ca>
Sent: Monday, September 23, 2019 4:41 PM
To: Dahl, Alexis <alexis.dahl@usask.ca>
Cc: Napper, Scott <scott.napper@usask.ca>; Kulyk, William <william.kulyk@usask.ca>; Baillie, Landon <landon.baillie@usask.ca>
Subject: RE: Draft response

We thank the Biology Department and the Psychology Department for their responses and welcome the opportunity to respond and to explain in greater detail the intention of our proposal.

Please let us begin with a bit of context. There are currently four undergraduate BSc programs offered by the Biomedical Science departments, which aligned with the five biomedical science departments that existed within the College of Medicine prior to their July 1, 2018 merger into two departments. Our four BSc programs share a common platform of Year 1/2 coursework

that was designed to provide our students a broad introduction to the biomedical sciences and to enable them to make an informed choice as to which disciplinary major to pursue as they enter their third year of studies. Our two new departments *(Anatomy, Physiology, and Pharmacology* and *Biochemistry, Microbiology, and Immunology*) are proposing changes to the BSc programs that we offer. The new majors will retain our Common Year 1/2 platform. The BMI department's plan is to combine their existing two majors into one, and the APP department's proposal is to replace our existing ACB and PHPY BSc majors with two new majors – one in *Cellular, Physiological, and Pharmacological Sciences (CPPS)* and the other in *Neuroscience (NEUR)*. Neuroscience is a particular strength of the Department of APP. We have about a dozen faculty members who are trained in neuroscience and most of them continue to do neuroscience-related research. Our existing PHPY and ACB majors already contained a number of neuroscience-related courses and there is a willingness among our faculty to create new neuroscience courses. We therefore saw our departmental merger as providing us an opportunity to offer a Neuroscience BSc major under the umbrella of the biomedical sciences. We are not, however, interested in creating a "Neuroscience program" that would be separate from the other BMSC majors and would differ from them in its first two years of coursework.

We do not wish to create any confusion in prospective students about the disciplinary scope and focus of our program. We would therefore be pleased to change the name of our proposed major to "Biomedical Neuroscience", as has been suggested by the Department of Psychology.

We also do not have any wish or intention of monopolizing use of the term "neuroscience". If any other department in future decides to incorporate that title in one of their own undergraduate programs, we would be more than happy to cooperate with them. If, for example, the Department of Psychology wants to create a major in "Cognitive Neuroscience" or something similar, we would be happy to work with them to enable both their students and ours to benefit from courses in both programs.

We are also more than happy to allow our students to take relevant courses from other departments and to have their students take courses from our program. We can only do this, however, when the students are prepared properly to take the courses and we will continue to be constrained by the courses that our students take in their first two years. Regarding the Department of Biology's concern about access to HSC 350, we note that there were 13 Biology students who took HSC 350 in the last three years and their course average (65 %) was about 10 % lower than the class average over those three years. If Biology wishes to maintain the current situation (which allows students to take HSC 350 with only BIOL 224 as a prerequisite) we would be willing to do so, but are concerned that this may not be in the best interests of their students and wish to ask if they agree.

We are excited about our proposed new majors and look forward to working with other departments and colleges to create the best possible experience for students. We are confident that creation of these new majors is going to be of great benefit to the students and to the University.

Cellular, Physiological, and Pharmacological Sciences

No correspondence specific to this program was received. Please see general information.

UNIVERSITY OF SASKATCHEWAN	**Proposal for Academic or Curricular Change**

PROPOSAL IDENTIFICATION

Title of proposal: Major in *Biochemistry, Microbiology, and Immunology* to replace existing majors in *Biochemistry* and *Microbiology and Immunology*

Degree(s): Bachelor of Science

Field(s) of Specialization: Biochemistry, Microbiology, and Immunology

Level(s) of Concentration: Honours and Four-year

Degree College: Arts & Science

Contact person(s) (name, telephone, fax, e-mail):

Dr. Scott Napper
Faculty; Department of Biochemistry, Microbiology, and Immunology; College of Medicine
Scientist and Science Management; Vaccine and Infectious Disease Organization-International Vaccine Research Center
University of Saskatchewan
Tel: (306) 966-1546; e-mail: scott.napper@usask.ca

Dr. Bill Roesler
Department Head; Biochemistry, Microbiology, and Immunology
College of Medicine
University of Saskatchewan
Tel: (306) 966-4375; e-mail: bill.roesler@usask.ca

Proposed date of implementation: May 2020

Executive Summary: The Departments of Biochemistry and Microbiology & Immunology merged in 2018 to form the Department of Biochemistry, Microbiology, and Immunology (BMI). The merged departmental structure offers numerous advantages including greater faculty numbers to ensure a more robust department, enhanced teaching and research synergies, and establishment of a stronger foundation for multi-disciplinary training. Having successfully navigated the merger process, the BMI Department now seeks to unite the two predecessor undergraduate programs into a single Biochemistry, Microbiology, and Immunology major. Within this new major there is enhanced priority on multi-disciplinary training, critical thinking, and experiential learning with the goal to inspire and enable careers within a spectrum of science-based activities as well as providing an educational foundation for entry in health-related professional colleges.

Rationale for Program Change:

The biomedical sciences are highly-competitive, rapidly-evolving disciplines, and as such, it is essential to ensure that training is these fields reflects contemporary content and priorities. This trend towards multi-disciplinary teaching and research is particularly evident within the fields of Biochemistry, Microbiology, and Immunology. With many common foundations, priorities, and investigative tools, these fields of study are exceptionally well-suited to co-exist within a shared department and teaching/research program. With that, in July 2018, through an overwhelmingly positive vote by our faculty, the Departments of Biochemistry and Microbiology & Immunology merged to form the Department of Biochemistry, Microbiology, and Immunology (BMI). The merged departmental structure offers numerous advantages including greater faculty numbers to ensure a more robust department, enhanced teaching and research synergies, and establishment of a stronger foundation for multi-disciplinary training. Having successfully navigated the merger process, the BMI Department now seeks to unite their undergraduate programs into a single Biochemistry, Microbiology, and Immunology major.

The proposed program change formalizes the will of the faculty, matches current priorities within biomedical science education, leverages the unique infrastructure and expertise present at the U of S, and exemplifies the priorities of the University in the establishment of multi-disciplinary collaborations. The new major enables the success of our graduates and promotes growth of biomedical research at the U of S.

Overall Objectives of the BMI Major:

- Provide learners with student-centric, multidisciplinary training.
- Inspire and enable careers within a spectrum of science-based activities.
- Develop skills that will serve them well in the workplace, namely critical thinking skills, communication (written and oral), collaboration and teamwork.
- Provide a strong foundational basis in biomedical sciences and research skills as well as serve as an inspiration for those students considering graduate training.
- Provide students with experiential learning opportunities.
- Reflect modern priorities in biomedical science education.
- Attract top-tier students, both nationally and internationally.
- Bolster the research capacities of our faculty.
- Enable enrollment growth for the U of S.

Key Curriculum Changes for the BMI Major:

The proposed BMI major builds on the strengths of its predecessors but with increased priority on multi-disciplinary training, experiential learning, and cutting-edge content. Following completion of the BMSC Platform, the priority transitions to more specific, yet still multidisciplinary, training within the areas of

Biochemistry, Microbiology and Immunology in the third and fourth years. Within this, there is sufficient flexibility within the discipline-specific electives to allow students to tailor their education to any of the three sub-disciplines (Microbiology, Biochemistry or Immunology) of the program.

In terms of updated curriculum, a number of courses are merged to remove redundancies:

- BIOC 300.3 Information Transfer DNA to Proteins and MCIM 326.3 Introductory Prokaryotic Genetics and Physiology will be combined to form BMIS 320.3 Nucleic Acids – From Central Dogma to Human Disease.
- BIOC 311.3 Introductory Molecular Biology and MCIM 391.3 Experimental Molecular Microbiology will be combined to form BMIS 340.3 Introduction to Experimental Molecular Biology.
- MCIM 308.3 Medical Bacteriology and MCIM 309.3 Medical Virology will be combined to form BMIS 308.3 Introduction to Pathogens.

BMI will include a new experiential learning opportunity in the form of BMIS 380.3 Team Based Experimental Microbiology (offered as MCIM 398.3 in 2018-19 and 2019-20). Course-based undergraduate research experience (CURE) offerings provide students with an authentic research experience in which they have the opportunity to develop and test their own research hypotheses.

Consistent with the majors being replaced, students within the BMI major will have the option for an Honours degree based upon completion of six additional credit units in the major, enrollment in the BMIS 490.0 seminar, and achievement of the required averages in the major and overall. Notably, students will have the option to fulfill the additional six credit unit requirement within the Major Requirement through completion of a BMIS 489.6 research project within the lab of a faculty member.

The current Double Honours degrees in Biochemistry & Biology and Biochemistry & Physics will continue to be offered to students.

Student Demand for BMI Degree:

Over the past 5 years the Biochemistry and the Microbiology and Immunology programs have graduated an average of 26 and 14 students per year, respectively. The new BMI Program is anticipated to build on the sum of these programs. Evidence in support of student demand for multi-disciplinary training within the fields of Biochemistry, Microbiology and Immunology is the fact that among students currently seeking Double Honours degrees in the biomedical sciences, Biochemistry with Microbiology and Immunology is quite popular. Based on this and with the improvements to the curriculum, a moderate increase in student enrollment in BMI beyond the current sums of the individual Biochemistry and Microbiology & Immunology programs is anticipated. There is ample capacity to accommodate this growth.

Targeted Demographics of the BMI major:

The biomedical sciences typically attract highly-motivated students who are either pursuing careers in science or are seeking entry into professional schools (typically Medicine, Pharmacy, or Dentistry). We anticipate a similar foundation of students within the BMI major.

Comparable Programs at the U of S:

The other proposed biomedical science majors – Biomedical Neuroscience and Cellular, Physiological and Pharmacological Sciences – will be the closest equivalent offerings at the U of S. While all the biomedical science majors share the BMSC platform, they are quite distinct in their upper year priorities. In particular, with a heavy emphasis on understanding life a molecular level, the BMI major will be quite distinct from either of the other proposed majors.

Outside the biomedical sciences, the Bachelor of Arts and Science program in Health Studies is likely the closest competing program at the U of S. Similar to some of the BMI students, many students of the Health Studies program aspire to enter medical school. There is some course overlap, especially with the Biology, Development and Health stream, but the programs are, however, quite distinct in their upper year requirements. The BMI major places heavy emphasis on biomedical (natural) science courses. In contrast, the Health Studies program strives for a more holistic perspective with a much broader interdisciplinary scope. Indeed, the Health Studies program is self-described as “a distinct interdisciplinary undergraduate program that builds on and combines science, social sciences, and humanities/fine arts.” The expanded scope of the Health Studies program, relative to the BMI, is achieved through shared priority for courses in the humanities and social sciences, and the sciences. As such, Health Studies and BMI represent quite unique educational experience largely catering to distinct populations of students.

Comparable Programs in Saskatchewan:

There are no other comparable programs within Saskatchewan. The closest in-province alternative is at the University of Regina, which offers degrees in biology as well as chemistry/biochemistry. In terms of the number of available courses, faculty numbers, research activity, representation of the various biomedical sciences, and available science-based infrastructure, the offerings at the University of Regina are not equivalent with the current BMSC majors, nor the proposed BMI major.

Comparable Programs in Canada:

Most Canadian Universities, in particular those with medical schools, offer degrees within the various biomedical sciences. Further, many Canadian Universities have moved towards a multidisciplinary approach to biomedical science education. Updated programs, like BMI, are essential for us to compete with these schools, both for retention of local students as well as to attract students on national and international scales. In particular, there is the opportunity to differentiate our program from those across Canada and around the world by virtue of the existing infrastructure strengths, including the Canadian Light Source (CLS), the new Health Sciences building, and the Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac). The last of these shares many priorities with the BMI department, and as a result there are strong linkages between the department and VIDO-InterVac, including faculty members who also serve as Scientists at that facility and have their research labs there, and VIDO-InterVac Scientists who have adjunct appointments with the department. Students benefit from these linkages by being exposed to cutting edge content in vaccinology, and opportunities to do Honours Projects, Summer Research projects, and, later, Graduate Studies within one of the premier research facilities within North America. The BMI Department also has strong ties to the CLS, with department faculty who are regular users of that facility, in particular for protein x-ray crystallography. This allows our students opportunities to receive training at the only synchrotron in Canada.

There are two Canadian Universities that have a Department of Biochemistry, Microbiology, & Immunology (BMI). Of these, the University of Victoria offers separate programs in Biochemistry and Microbiology/Immunology, but many of the same courses are required in the two programs. This speaks to the interconnectedness of the two disciplines. The University of Ottawa also has such a department, which offers a degree in biochemistry that can be coupled with a Microbiology/Immunology option, effectively producing an integrated BMI degree similar to what is proposed here.

UBC has separate Microbiology/Immunology and Biochemistry departments which each offer their own program. The University of Calgary offers a Biochemistry program and a Cellular, Molecular and Microbial Biology program, through the department of Biological Sciences. At the University of Alberta, the Biochemistry department offers a program in Biochemistry, while the department of Biological Sciences offers a program in Immunology and Infection as well as two distinct Microbiology programs that focus on

(i) evolutionary history/roles in ecosystems and (ii) bacterial function, structure, and biochemistry. And finally, the Department of Microbiology at the University of Manitoba offers separate degree programs in Microbiology and in Biochemistry.

Looking across the remainder of the U15 Universities, there is shared availability of undergraduate programs relating to different iterations and presentations of Biochemistry, Microbiology, and Immunology. The specific groupings reflect the size and specializations of the particular university with the larger universities, and those with the advantage of greater faculty numbers tending to offer a larger number of specialized options, each with larger complements of supporting courses.

Potential Impacts on Other Academic Programs:

The new BMI major is not anticipated to have any negative consequences for other academic programs or units, as the majority of the required courses for the BMI major are carried forward from the previous, separate programs in Biochemistry and Microbiology & Immunology. This includes the introductory and related courses taught by other departments, all of which have been consulted about the proposed updates. The Department of Philosophy has been specifically consulted regarding inclusion of PHIL 140.3 (Critical Thinking), and they have offered their support. The Departments of Psychology and History have been consulted regarding inclusion of HLST 110.3 (Introduction to Health Studies) and HIST 165.3 (History Matters: Health and Society), respectively, as recommended electives in the program, and each has offered support for these selections.

Alignment with University and College Priorities:

The BMI major directly aligns with the strategic plans of the university and COM, in particular to strengthen research capacity and to grow a strong cohort of excellent learners/researchers who will enhance both health science professional and graduate programs. The update to the BMSC programs is specifically highlighted in the area of Strengthening Research Capacity in the COM strategic plan. Our goal is to implement undergraduate majors that stimulate graduate student and faculty research programs. In addition, the undergraduate programs will work to encourage and expand collaborations – both interdisciplinary and within college basic science/clinical areas. In particular, we are collaborating with the departments of Community Health and Epidemiology, and Pathology to offer undergraduate courses in Epidemiology and Pathology.

Knowledge Creation:

A central priority of the new major is to contribute to a vibrant and robust research environment within the COM. Many of the graduate students within the research labs of the biomedical science faculty are alumni of our own undergraduate programs. As such there is self-serving motivation to ensure these individuals receive the highest caliber of training to best prepare them for success as researchers. While it is relatively easy to train students to be proficient in a range of techniques, the greater value is in equipping these individuals with the skills required to make higher-level contributions to research. The new program, through emphasis on critical thinking, experiential learning, and training in cutting edge research techniques, is designed to enable the training of such individuals. The opportunities provided will also serve as a strong incentive to recruit students (provincially, nationally, and internationally) to our campus.

Innovation in Academic Programs and Services:

Within the new major there is a priority for multidisciplinary training that is presented within the context of a revamped curriculum that prioritizes innovative lab experiences in cutting-edge technologies and new opportunities for experiential learning. The new program also brings forth innovative approaches to

academic services through the development of a number of online courses designed to accommodate students from outside of Saskatoon or with limited access to traditional classes. Currently, BMSC 200.3, BMSC 230.3, and PHSI 208.6 (to become BMSC 207.3/208.3 in 2020-21) are available as online courses with further plans to make other courses of the common BMSC Platform available in online formats.

Resources:

No additional financial or personnel resources are required to replace the current majors with the unified BMI degree offering.

UNIVERSITY OF SASKATCHEWAN

Report Form for Program Termination

Program(s) to be deleted: **Biochemistry – Bachelor of Science Honours, Double Honours (with ACB and MCIM only), Four-year and Three-year**
Microbiology and Immunology – Bachelor of Science Honours, Four-year and Three-year

Effective date of termination: **May 2020**

1. List reasons for termination and describe the background leading to this decision.

The Department of Biochemistry, Microbiology, and Immunology is proposing to replace the Biochemistry, and the Microbiology & Immunology programs with a single program in Biochemistry, Microbiology, and Immunology. The new programs will offer both Honours and Four-year options. A Three-year program in Biomedical Foundations is also proposed, as a replacement for the current Three-year options in each major.

2. Technical information.

2.1 Courses offered in the program and faculty resources required for these courses.

Most of the current courses will continue to be used in the new programs, with some courses being merged to better cover content through a shared Biochemistry/Microbiology/Immunology lens and/or to reflect updated understanding of the subject matter. Seminar and research courses built for the old majors will be replaced by similar courses for the new majors. Faculty teaching requirements will remain virtually unchanged compared to now.

2.2 Other resources (staff, technology, physical resources, etc.) used for this program.

There are no positions or other resources used in these programs that will not be used for the proposed programs.

2.3 Courses to be deleted, if any.

Courses merged:

- BIOC 300.3 (Information Transfer DNA to Proteins) and MCIM 326.3 (Introductory Prokaryotic Genetics and Physiology) to form BMSC 320.3 (Nucleic Acids: From Central Dogma to Human Disease)

- BIOC 311.3 (Introductory Molecular Biology) and MCIM 391.3 (Experimental Molecular Microbiology) to form BMIS 340.3 (Introduction to Experimental Molecular Biology)
- MCIM 308.3 (Medical Bacteriology) and MCIM 309.3 (Medical Virology) to form BMIS 308.3 (Introduction to Pathogens)

2.4 Number of students presently enrolled.

2018-19

Biochemistry: 138
Microbiology & Immunology: 104

2.5 Number of students enrolled and graduated over the last five years.

Headcount	Biochemistry	Microbiology & Immunology
2014-15	149	93
2015-16	117	79
2016-17	112	87
2017-18	118	80
2018-19	138	104

Graduates	Biochemistry	Microbiology & Immunology
2015	28	21
2016	20	10
2017	18	19
2018	24	17
2019	20	17

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3. Impact of the termination.
Internal

3.1 What if any impact will this termination have on undergraduate and graduate students? How will they be advised to complete their programs?

Existing students will be allowed to complete the current program, or they may choose to switch to the new program, per Arts & Science policy.

3.2 What impact will this termination have on faculty and teaching assignments?

None. It is anticipated that faculty and teaching assignments will remain constant.

3.3 Will this termination affect other programs, departments or colleges?

No other departments or colleges will be affected. Students in other majors will still be able to take courses offered.

3.4 If courses are also to be deleted, will these deletions affect any other programs?

No effect on other programs.

3.5 Is it likely, or appropriate, that another department or college will develop a program to replace this one?

Replacement programs are being proposed concurrently.

3.6 Is it likely, or appropriate, that another department or college will develop courses to replace the ones deleted?

N/A

3.7 Describe any impact on research projects.

None.

3.8 Will this deletion affect resource areas such as library resources, physical facilities, and information technology?

No effect. Replacement programs will use the same resources as the old programs.

3.9 Describe the budgetary implications of this deletion.

Most courses remain the same or are replaced by program-focused versions. Changes to the budget should be net zero.

External

3.10 Describe any external impact (e.g. university reputation, accreditation, other institutions, high schools, community organizations, professional bodies).

The replacement of the BIOC and MCIM programs with the new BMI program is anticipated to enhance the university's reputation, as the new program is anticipated to be at least as popular as the old programs.

It will be important to communicate with external stakeholders, such as high schools and regional colleges, to make potential students aware of the program changes.

3.11 Is it likely or appropriate that another educational institution will offer this program if it is deleted at the University of Saskatchewan?

Replacement programs are being proposed concurrently.

Other

3.12 Are there any other relevant impacts or considerations?

No.

3.13 Please provide any statements or opinions received about this termination.

Please see Consultation.

College Statement

From Gordon DesBrisay, Vice Dean Academic

I am pleased to confirm that the College of Arts and Science supports replacement of the current Bachelor of Science programs in Biochemistry and in Microbiology and Immunology with a single, combined program in Biochemistry, Microbiology, and Immunology.

The College of Arts and Science is working to provide innovative program options that meet student need and demand. The merger of the Department of Biochemistry with the Department of Microbiology and Immunology created the opportunity for these groups of faculty to work together on this new program, which reduces duplication in courses, and therefore makes more efficient use of teaching resources. The new program continues the tradition of offering high-quality education in this area, but provides more course options for students, which will allow graduates more options for future study or employment.

The Academic Programs Committee (BSc) approved the proposals to create the new major and to delete the old majors on September 17, 2019, as did the College Faculty Council on October 10, 2019.

Program Description

Biochemistry, Microbiology, and Immunology

The Department of Biochemistry, Microbiology and Immunology offers a program which provide education in the areas the molecular and cellular approaches to the study of the life sciences including microbial physiology and pathogenesis, protein structure and function, molecular biology, microbial genetics, virology, tumour biology and cancer, immunology and immunopathogenesis. This program includes necessary courses for students prepared to enter graduate studies in biomedical sciences and into health-related professional schools such as Medicine, Dentistry, Veterinary Medicine and Pharmacy. Graduates are also prepared for careers in broad aspects of biotechnology and they can find employment in academic/research institutions and related industries.

Double Honours programs in Biochemistry and Biology, and Biochemistry and Physics are also available. Students considering a Double Honours program must consult an academic advisor within each department.

The four B.Sc. degree programs listed below share a set of courses (the Biomedical Science Common Core) which are to be taken in years 1 & 2. These courses have been incorporated into the C1-C5 requirements.

Biochemistry, Microbiology & Immunology
Biomedical Foundations
Biomedical Neuroscience
Cellular, Physiological and Pharmacological Sciences

Major Average

The major average in Biochemistry, Microbiology and Immunology programs includes the grades earned in:

- All courses listed in the Major Requirement C4.

Residency Requirements in the Major

To receive a degree in Biochemistry, Microbiology and Immunology, students must complete at least two-thirds of the following coursework (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan.

- Minimum requirements in Major Requirement C4.

See Residency for additional details.

Bachelor of Science Four-year (B.Sc. Four-year) – Biochemistry, Microbiology and Immunology

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

Choose 3 credit units from the following areas.

Fine Arts
Humanities
Social Sciences
Courses with No Program Type

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PHIL 140.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 120.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (60 credit units)

- BMIS 340.3 (Intro to Experimental Molecular Biology)
- BMIS 400.0 (Seminar in Biochemistry Microbiology and Immunology)
- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BMSC 320.3 (Nucleic Acids from Central Dogma to Human Disease)
- CHEM 250.3

Choose **3 credit units** from the following:

- BIOC 310.3
- MCIM 390.3

Choose **3 credit units** from the following:

- BINF 200.3
- BINF 210.3

Choose **15 credit units** from the following, including at least 9 credit units at the 400-level:

- BIOC 435.3
- BIOC 405.3
- BIOC 412.3
- BIOC 430.3
- BIOC 436.3
- BMIS 380.3 (Team Based Experimental Microbiology)
- BMIS 308.3 (Intro to Microbial Pathogens)
- BMIS 489.6 (Research Project in Biochemistry Microbiology and Immunology)
- MCIM 321.3
- MCIM 417.3
- MCIM 423.3
- MCIM 425.3
- MCIM 487.3

Choose **9 credit units** from the following:

- ACB 325.3
- ACB 333.3
- BINF 300.3

- BIOL 226.3
- BIOL 316.3
- BIOL 331.3
- BIOL 420.3
- BIOL 436.3
- CHEM 456.3
- FABS 325.3
- FABS 334.3
- FABS 430.3
- FABS 450.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- SLSC 343.3
- Any BMSC, BMIS, BIOC or MCIM course at the 300 or 400 level

C5 Electives Requirement (21 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Four-year program, of which at least 66 must be at the 200-level or higher.

- HLST 210.3 is recommended.

Bachelor of Science Honours (B.Sc. Honours) – Biochemistry, Microbiology and Immunology

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (15 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3

Choose **3 credit units** from the following:

- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

Choose 3 credit units from the following areas.

Fine Arts
Humanities
Social Sciences
Courses with No Program Type

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PHIL 140.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 120.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

C4 Major Requirement (66 credit units)

- BMIS 340.3 (Intro to Experimental Molecular Biology)
- BMIS 400.0 (Seminar in Biochemistry Microbiology and Immunology)
- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BMSC 320.3 (Nucleic Acids from Central Dogma to Human Disease)
- CHEM 250.3

Choose **3 credit units** from the following:

- BIOC 310.3
- MCIM 390.3

Choose **3 credit units** from the following:

- BINF 200.3
- BINF 210.3

Choose **15 credit units** from the following, including at least 9 credit units at the 400-level:

- BIOC 435.3
- BIOC 405.3
- BIOC 412.3
- BIOC 430.3
- BIOC 436.3
- BMIS 380.3 (Team Based Experimental Microbiology)
- BMIS 308.3 (Intro to Microbial Pathogens)
- BMIS 489.6 (Research Project in Biochemistry Microbiology and Immunology)
- MCIM 321.3
- MCIM 417.3
- MCIM 423.3
- MCIM 425.3
- MCIM 487.3

Choose **15 credit units** from the following:

- ACB 325.3
- ACB 333.3
- BINF 300.3
- BIOL 226.3
- BIOL 316.3
- BIOL 331.3
- BIOL 420.3
- BIOL 436.3
- CHEM 456.3
- FABS 325.3
- FABS 334.3
- FABS 430.3
- FABS 450.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- SLSC 343.3
- Any BMSC, BMIS, BIOC or MCIM course at the 300 or 400 level

C5 Electives Requirement (15 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Honours program, of which at least 66 must be at the 200-level or higher.

- HLST 210.3 is recommended.

Consultation and Correspondence:

Biochemistry, Microbiology, and Immunology

No correspondence specific to this program was received. Please see general information.

UNIVERSITY OF SASKATCHEWAN	**Proposal for Academic or Curricular Change**

PROPOSAL IDENTIFICATION

Title of proposal: Major in Biomedical Foundations

Degree(s): Bachelor of Science

Field(s) of Specialization: Biomedical Foundations

Level(s) of Concentration: Three-year

Degree College: Arts & Science

Contact person(s) (name, telephone, fax, e-mail):

Dr. Scott Napper
Faculty; Department of Biochemistry, Microbiology, and Immunology; College of Medicine
Scientist and Science Management; Vaccine and Infectious Disease Organization-International Vaccine Research Center
University of Saskatchewan
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Dr. Thomas Fisher
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Proposed date of implementation: May 2020

Executive Summary: In 2018, the Departments of Biochemistry and Microbiology & Immunology merged to form the Department of Biochemistry, Microbiology, and Immunology (BMI) and the Departments of Anatomy & Cell Biology, and Physiology and Pharmacology merged to form the Department of Anatomy, Physiology, and Pharmacology (APP). Each of these emerging departments is now updating their undergraduate programs to better reflect their new strengths and priorities. As part of that process, the three-year degrees offered by each of the previous departments (Biochemistry, Microbiology & Immunology, Anatomy & Cell Biology and Physiology & Pharmacology) will be replaced with a single, unified Biomedical Foundations three-year degree that better reflects the high degree of shared course content within the previous degrees and the new structure of the emerging four year degrees which emphasizes multidisciplinary training with a delay of specialization until the fourth year.

Rationale for Program Change:

The biomedical sciences at the University of Saskatchewan are evolving to achieve greater multidisciplinary strength within our departmental structures and academic programs. Given the use of the common two-year platform for all BMSC majors, the extent of specialization that can happen in the third year is limited. It was therefore decided that students would be best served by a single, combined Three-year program option which will have a title that better conveys the broad nature of this major, rather than attempting to offer a Thee-year option for each of the specialized majors.

Overall Objectives of the Biomedical Foundations Three-Year Major:

- Provide learners with student-centric, multidisciplinary training.
- Inspire and enable careers within a spectrum of science-based activities.
- Develop skills that will serve them well in the workplace, namely critical thinking skills, communication (written and oral), collaboration and teamwork.
- Provide a strong foundational basis in biomedical sciences and research skills.
- Provide students with experiential learning opportunities.
- Reflect modern priorities in biomedical science education.
- Attract top-tier students, both nationally and internationally.
- Enable enrollment growth for the U of S.

Key Curriculum Changes for the Biomedical Foundations Three-Year Major:

The Biomedical Foundations three-year major retains the common foundations of the existing biomedical science Three-year majors but offers greater choice of courses in the third year. This allows it to serve as a universal option for any student interested in the biomedical sciences. The more general title of this degree, relative to, for example, a three-year degree in Biochemistry, better reflects the breadth, rather than depth, of training the student has received while still having positive connotations.

The Biomedical Foundations three-year degree will represent a shared option for both the BMI and APP Departments with an administrative home within the Dean's Office of the College of Medicine.

Student Demand for Biomedical Foundations Three-year Degree:

Over the past 5 years, a total average of 29 students per year have graduated with three-year degrees in Biochemistry, Microbiology & Immunology, Anatomy & Cell Biology, and Physiology and Pharmacology. While the change in requirements in 2015 requiring students to complete a four-year degree for application to Medical School at the U of S caused a significant drop in the three-year degrees of the biomedical science programs, the numbers have been quite consistent since that time, and therefore the number of students who pursue the Biomedical Foundations three-year is anticipated to be in this range.

Targeted Demographics of the Biomedical Foundations major:

Graduates with the three-year degrees in the biomedical sciences most typically represent students who gain entry in professional colleges not requiring a four-year degree, such as Pharmacy and Dentistry (see attached support letters). Quite often these students do not wait to delay entry into those programs until they complete the four-year degree but wish to have official acknowledgement of their efforts within an undergraduate program. There are also other students with career objectives requiring some level of post-secondary education outside of the traditional four-year degree. We anticipate a similar composition of students within the Biomedical Sciences Three-year major. Students who enrol in the 3-year degree option will be able to transition easily to a 4-year program if they so choose.

Comparable Programs at the U of S:

In terms of comparable three-year degrees, the closest equivalents at the U of S would likely be Biology and Chemistry. These, however, are very distinct programs with little shared emphasis or course work outside of some common introductory courses.

Comparable Programs in Saskatchewan:

There are no other comparable programs within Saskatchewan. The closest in-province alternative would be at the University of Regina, which offers four year degrees in biology as well as chemistry/biochemistry. In terms of the number of available courses, faculty numbers, research activity, representation of the various biomedical sciences, and available science-based infrastructure, the offerings at the University of Regina are not equivalent with the Biomedical Foundations three-year degree.

Comparable Programs in Canada:

There has been a general decline in the number of Canadian universities offering three-year degrees, in particular within the biomedical sciences. While there may be some exceptions, typically students don't enter into University programs with the stated goal of a three-year degree. In particular, within the biomedical sciences where many of the opportunities rely on post-graduate training that is dependent upon a four-year degree. Rather these degrees represent a valuable option for students exiting a traditional 4-year program either to enter into a professional college (in particular for the biomedical sciences) or due academic challenges. In either of these situations the three-year degree option represents official recognition of their effort and achievement within the program.

Potential Impacts on Other Academic Programs:

The new Biomedical Foundations three-year degree is not anticipated to have any negative consequences for other academic programs or units, as the majority of the required courses for this major are carried forward from the previous offerings of Biochemistry, Microbiology & Immunology, Anatomy & Cell Biology, and Physiology & Pharmacology. This includes the introductory and related courses taught by other departments, all of which have been consulted about the proposed updates. The Department of Philosophy has been specifically consulted regarding inclusion of PHIL 140.3 (Critical Thinking), and they have offered their support. The Departments of Psychology and History have been consulted regarding inclusion of HLST 110.3 (Introduction to Health Studies) and HIST 165.3 (History Matters: Health and Society), respectively, as recommended electives in the program, and each has offered support for these selections.

Innovation in Academic Programs and Services:

Within the new major there is a priority for multidisciplinary training that is presented within the context of a revamped curriculum that prioritizes innovative lab experiences in cutting-edge technologies and new opportunities for experiential learning. The new program also brings forth innovative approaches to academic services through the development of a number of online courses designed to accommodate students from outside of Saskatoon or with limited access to traditional classes. Currently, BMSC 200.3, BMSC 230.3, and PHYS 208.6 (to become BMSC 207.3/208.3 in 2020-21) are available as online courses with further plans to make other courses of the common BMSC platform available in online formats.

Resources:

No additional financial or personnel resources are required to replace the current three-year degrees with the unified Biomedical Foundations degree offering.

College Statement

From Gordon DesBrisay, Vice Dean Academic

I am pleased to confirm that the College of Arts and Science supports creation of a Bachelor of Science Three-year program in Biomedical Foundations to replace the current Three-year options in Anatomy and Cell Biology; Biochemistry; Microbiology and Immunology; and Physiology and Pharmacology.

The College of Arts and Science is working to provide innovative program options that meet student need and demand. The two-year BMSC platform, which is included in each of the majors in the Biomedical Sciences, results in little room for specialization in only one additional year. The introduction of a Three-year option which allows students to choose breadth, within these defined areas, provides students with the opportunity to explore courses that they are interested in. This program can be laddered into each of the Four-year/Honours majors, but also provides an exit point for students who are admitted to a professional college after three years of study, and for those students whose academic goals change during the process of their degree.

The Academic Programs Committee (BSc) approved the proposal to create the new major on September 17, 2019, as did the College Faculty Council on October 10, 2019.

Program Description

Biomedical Foundations

Through the Dean's office at the College of Medicine, the biomedical science departments of Biochemistry, Microbiology and Immunology and Anatomy, Physiology, and Pharmacology offer a three-year major in Biomedical Foundations. This major builds on the shared two-year biomedical sciences platform shared by all the biomedical science majors to provide students with a strong foundation of multi-disciplinary training while providing flexibility for initial specialization within a particular biomedical science. This program includes necessary courses for students prepared to enter into health-related professional schools not requiring a four-year degree such as Dentistry, Veterinary Medicine and Pharmacy. Graduates are also prepared for careers in broad aspects of biotechnology and they can find employment in academic/research institutions and related industries.

Major Average

The major average in Biomedical Foundations includes the grades earned in:

- All courses listed in the Major Requirement C4.

Residency Requirements in the Major

To receive a degree in Biomedical Foundations, students must complete at least two-thirds of the following coursework (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan.

- Minimum requirements in Major Requirement C4.

See Residency for additional details.

Bachelor of Science Three-year (B.Sc. Three-year) – Biomedical Foundations

No more than 6 credit units from one subject may be used in Requirements C1 to C3.

C1 College Requirement (12 credit units)

English Language Writing

Choose **6 credit units** from the following:

- *Approved list*

Indigenous Learning

Choose **3 credit units** from the following:

- *Approved list*

Quantitative Reasoning

Choose **3 credit units** from the following:

- MATH 110.3
- MATH 125.3
- STAT 245.3
- STAT 246.3
- PLSC 214.3

C2 Breadth Requirement (3 credit units)

Choose 3 credit units from the following areas.

Fine Arts
Humanities
Social Sciences
Courses with No Program Type

C3 Cognate Requirement (21 credit units)

- BIOL 120.3
- CHEM 112.3
- CHEM 115.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Required Cognate Courses

- PHIL 140.3

Choose **3 credit units** from the following:

- HLST 110.3
- PSY 120.3
- PSY 121.3

- SOC 111.3
- SOC 112.3

C4 Major Requirement (42 credit units)

- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3

Choose **3 credit units** from the following:

- BIOL 226.3
- BMSC 320.3 (Nucleic Acids from Central Dogma to Human Disease)

Choose **15 credit units** from the following:

- ACB - 300-level, 400-level
- BIOC - 300-level, 400-level
- BMIS - 300-level, 400-level
- BMSC - 300-level
- CPPS - 300-level, 400-level
- MCIM – 300-level, 400-level
- NEUR 301.3 (Fundamental Neuroscience Intercellular Communication)
- NEUR 350.3 (Fundamental Neuroscience)
- NEUR 405.3 (Topics in Neuroscience)
- PHPY - 300-level, 400-level

C5 Electives Requirement (12 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 90 credit unit Three-year program, of which at least 42 must be at the 200-level or higher.

Consultation and Correspondence:

UNIVERSITY OF SASKATCHEWAN
College of Pharmacy and Nutrition

Pharmacy and Nutrition
104 Clinic Place Saskatoon SK S7N 2Z4 Canada
Ph: 306-966-6327 Fx: 306-966-6173
Web: www.usask.ca/pharmacy-nutrition

MEMORANDUM

TO: Planning and Priorities Committee of Council

FROM: Dr. Ed Krol, Acting Associate Dean, Academic

DATE: July 2, 2019

RE: New Biomedical Sciences Undergraduate Program

This memo is to indicate support for the new collaborative Biomedical Sciences (BMSC) undergraduate program to be jointly offered by the Colleges of Medicine and Arts and Science.

Currently, there are courses offered through the respective departments in the College of Medicine (Anatomy, Physiology and Pharmacology [APP] and Biochemistry, Microbiology and Immunology [BMI]) that are required prerequisites for admission to the pharmacy program. In addition, the Nutrition program has several required courses in the current curriculum also delivered through APP and BMI.

As a non-direct entry college, we always advise students to seek out different options to complete another degree in the event they are not admitted to either the pharmacy or nutrition program. Offering a new collaborative undergraduate BMSC program would provide a worthwhile option to those particular students.

If you require further information, do not hesitate to contact me at ed.krol@usask.ca or phone 966-2011.

Sincerely,

Ed Krol, Ph.D.
Acting Associate Dean, Academic

From: **Mulligan, Kelly** kelly.mulligan@usask.ca
Subject: Re: Biomedical Foundations 3yr degree proposal
Date: June 19, 2019 at 11:07 AM
To: Giesbrecht, Dawn dawn.giesbrecht@usask.ca
Cc: Uswak, Gerry gerry.uswak@usask.ca

Hello Dawn,

The College of Dentistry is happy to support your proposed 3-year degree proposal. Students applying to the DMD program require 3 years of a full-course load and not a 4-year degree so the 3- year degree program will not affect their eligibility provided they complete all of the pre-requisites.

Good luck with the proposal.

Kind Regards, Kelly

Kelly Mulligan

Director of Academic & Student Affairs

College of Dentistry

Ph. (306) 966-2760

Biomedical Sciences Program Proposals – General Information

The course requirements for the BMSC Platform have been selected to provide students with a broad base of multi-disciplinary biomedical science training within the first two years. These requirements include:

English Language Writing requirement – 6 credit units

Indigenous Learning Requirement – 3 credit units

Quantitative Reasoning Requirement – 6 credit units (3 credit units for the B.Sc. Three-year) from:

- MATH 110.3
- MATH 125.3
- STAT 245.3
- STAT 246.3
- PLSC 214.3

At least 3 credit units from:

- HLST 110.3
- PSY 120.3
- PSY 121.3
- SOC 111.3
- SOC 112.3

Required courses:

- BIOL 120.3
- BMSC 200.3
- BMSC 207.3 (Human Body Systems I)
- BMSC 208.3 (Human Body Systems II)
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 112.3
- CHEM 115.3
- CHEM 250.3
- PHIL 140.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

The existing Biomedical Sciences (BMSC) platform was designed to enable informed decisions about selection of majors while also facilitating transition into other majors both within, and outside of, the biomedical sciences. This common platform includes introductory courses within a spectrum of basic science and biomedical science disciplines which provides a foundation from which students can select their major. In the proposals submitted for approval, the platform has been improved through the addition of a required course in Critical Thinking (PHIL 140.3), to expose students to this area of study, and to ensure that graduates are better problem solvers. The option to take courses in Health Studies (HLST 110.3, HLST 210.3) has also been highlighted, an area of study which shares a similar priority, by wider perspective, as the biomedical science majors. Including these courses provides future biomedical

science majors with a solid foundation, but also offers, especially after the first year, flexibility to choose a different academic direction. Rather than competing, we want students to have as much exposure as possible to each program to make informed decisions about which best serves their interests and aptitudes.

The proposed majors are built on the recently-updated Arts and Science B.Sc. template, which includes an Indigenous Learning requirement. We feel that this change will help to ensure graduates are better prepared to understand the world around them and make better decisions as citizens and scientists.

There are a number of courses taught by the biomedical science departments which are required by other academic programs. There will be no change in the offerings of these courses nor their availability to students outside the BMSC programs.

We do not initially expect overall changes in demand for the proposed majors relative to the current majors, but growth is expected over time. However, any significant increase in enrollment would have the potential to stress the registration limits of foundational science courses such as BIOL 120.3 and CHEM 112.3. These courses currently represent a critical bottleneck to the expansion of a number of academic programs on campus. The colleges and departments, as well as the Provost, are well aware of these issues, and are seeking solutions.

Transition of existing students:

Students will be given the option to change to the new program starting September 2020, or will be allowed to complete the old program as per A&S policy.

Transition and timing of new courses:

New/merged courses will be offered starting in the 2020/21 school year. Appropriate course equivalency will be considered for students who for one reason or another are returning to complete their studies after a period of absence, on a case by case basis.

Consultations:

Extensive consultation with all stakeholders was undertaken. All departments that are involved in teaching in the BMSC program have been consulted. Changes to the proposal were made in response to the many discussions.

College of Medicine

- Dr. Preston Smith, Dean, College of Medicine
- Dr. Thomas Fisher, Department Head, Department of Anatomy, Physiology, and Pharmacology
- Dr. Bill Roesler, Department Head, Department of Biochemistry, Microbiology and Immunology
- Dr. Fergall Magee, Department Head, Pathology and Laboratory Medicine
- Dr. Anne Leis, Department Head, Community Health and Epidemiology
- College of Medicine Faculty Council

College of Arts and Science

- Dr. Peta Bonham-Smith, Dean
- Dr. Gordon DesBrisay, Vice Dean Academic
- Dr. P. Alward, Department Head, Philosophy
- Dr. G. Sarty, Department Head, Psychology
- Dr. M. Mickleborough, Director, Health Studies Program
- Dr. Ken Wilson, Department Head, Biology
- Dr. Matthew Paige, Department Head, Chemistry
- Dr. Sasha Koustov, Department Head, Physics
- Dr. Erika Dyck, Faculty Member, History

College of Dentistry

- Dr. Gerry Uswak, Acting Associate Dean, Academic
- Kelly Mulligan, Director of Academic and Student Affairs

College of Kinesiology

- Dr. Kent Kowalski, Associate Dean, Academic

College of Pharmacy and Nutrition

- Dr. Ed Krol, Acting Associate Dean, Academic

Student groups in BMSC

- ACBC: Anatomy and Cell Biology Club
- MISA: Microbiology and Immunology Students' Association
- BSA: Biochemistry Students' Association
- PHPY: Physiology and Pharmacology Students' Association

Planning and Priorities Committee

NOTICE OF INTENT for new

Biomedical Sciences Undergraduate Program

1. Motivation: On July 1, 2018, the five Biomedical Sciences (BMSC) departments (Biochemistry, Microbiology & Immunology, Anatomy & Cell Biology, Physiology, and Pharmacology) in the College of Medicine (COM) merged to form two departments; Anatomy, Physiology and Pharmacology (APP) and Biochemistry, Microbiology and Immunology (BMI). With these mergers complete, it is time to update the undergraduate (UG) majors to match the new Departmental structures and priorities.

   The COM has been working closely with the College of Arts and Science (A&S) to create a new collaborative BMSC Program to be jointly offered by both colleges. We are proposing to achieve this using a two-phase process carried out over two years. The first phase will involve the creation of three new majors to replace the four current majors of Biochemistry; Microbiology and Immunology; Anatomy and Cell Biology; and Physiology and Pharmacology. The new majors are Biochemistry, Microbiology and Immunology (BMI); Cellular, Physiological, and Pharmacological Sciences (Name TBD at April APP meeting) and Neurosciences (NEUR). The second phase will involve the creation of the new collaborative program to be offered by the COM and A&S which will result in a BSc. (BMSC). We will create a new Type M template and a new admissions process enabling both direct entry from high school as well as delayed entry from other University programs. The rationale for a two-phase process follows.

   The College of Arts and Science is currently undergoing curriculum renewal process which is resulting in a change to the templates used to define their degrees. The templates come into effect for the 2020-2021 school year and as such, we will create our replacement majors to fit the new Type C template.

   In phase one we will replace the four current BMSC majors with three new majors. These efforts will include the merging of select courses to reduce redundancy of content as well as adding new courses to enhance the student learning experience. For example, this will include the introduction of Course Based Undergraduate Research Experience (CURE) courses to introduce an experiential learning component. These changes will make more efficient use of current resources to deliver quality programs to students.

   In phase two, the new BMSC Program will be implemented with further improvements to admissions, curriculum, governance, and student support. With respect to admissions, this program will be shared by both the COM and A&S and will have a new admission stream. A new Type M degree template will be created which will allow students to apply directly to the BMSC UG program right out of high school. Further changes to the curriculum will involve the creation of an Interdisciplinary BMSC major with the introduction of additional courses (Epidemiology and Pathology). We will create BMSC learning

communities for students with COM faculty involvement. In terms of changes to governance, we are proposing to create a new BMSC APC committee, populated by both A&S and COM faculty, that will have responsibility for changes to BMSC courses and major requirements. The program will stay in A&S which will help to reduce any duplication of services by keeping student services in A&S. We expect that phase two can be approved at all appropriate levels of the university (Academic Programs Committee of Council, Council, Senate and Board of Governors) in time to allow the new program to start in Sept 2021.

2. Student demand: Within the first phase of the changes we expect student demand for the replacement majors to remain consistent with current levels. On average, about 320 students enter the second year of the program with about 800 students total in years 2-4 of the BMSC program. These numbers have remained fairly steady for the last 6 years. With the launch of the new admission stream, we anticipate that the program, and the marketability of the program being linked to the COM, will cause an increase in student enrollment.

3. Fit with college/university plans: The proposed BMSC UG program is specifically highlighted in the area of Strengthening Research Capacity in the COM strategic plan. Our goal is to implement a strong biomedical science program that stimulates graduate student and faculty research programs. In addition, the undergraduate program will work to encourage and expand collaborations – both interdisciplinary and college basic science/clinical. In particular, we are collaborating with the departments of Community Health and Epidemiology and Pathology to offer new undergraduate courses in Epidemiology and Pathology.

   The COM is extremely proud of its proactive efforts to encourage Indigenous students towards careers in Medicine. Specifically, our Medical School initiated a number of ground-breaking programs and admissions processes that have been extremely successful in recruitment and retention of Indigenous students. There will be shared priorities and mechanisms to attract Indigenous students to the BMSC Program. These efforts can serve as a starting foundation for larger-scale, focused recruitment efforts that will include an inter-provincial effort to increase Indigenous student awareness of the program, as well as to leverage existing relationships between the COM and our affiliated Northern schools. The BMSC Program will also implement measures that allow us to quantify Indigenous enrolment within the program through self-declared Aboriginal status. Finally, courses in Indigenous Learning will represent required components of all of the BMSC degrees.

4. Relationships to other programs: The new BMSC undergraduate program will ultimately replace the current BMSC degree options. In phase one, the four current majors in Biochemistry; Microbiology and Immunology; Anatomy and Cell Biology; and Physiology and Pharmacology will be replaced by the three majors of Biochemistry, Microbiology and Immunology; Cellular, Physiological, and

Pharmacological Sciences; and Neuroscience. In phase two, the Biomedical Sciences Interdisciplinary major will be added. We do not anticipate any impact to other programs on campus or elsewhere.

The Health Studies major offered through the College of Arts and Sciences is the closest comparable program at the U of S. Similar to the BMSC program, many students of the Health Studies program aspire to go into Medical School, or into other health science professions. There is also some course overlap, in particular within the first two years. The programs are, however, quite distinct in their upper year requirements where the BMSC Program places heavy emphasis on biomedical science courses, within each of the majors. In contrast, the Health Studies Program strives for a more holistic perspective with a much broader interdisciplinary scope. Indeed, the Health Studies major is a Bachelor of Arts and Science program, self-described as "a distinct interdisciplinary undergraduate program that builds on and combines science, social sciences, and humanities/fine arts." The expanded scope of this program (relative to the BMSC Program) is achieved through a reduced requirement for science courses, balanced by an increased requirement for arts courses. As such, the Health Studies and BMSC offerings represent quite distinct educational experiences largely catering to unique populations of students. Notably, we have been in active discussion with the leaders of the Health Studies program and they have offered their support and enthusiasm for the development of the BMSC Program and the synergies this will offer with their own program.

There are no other comparable programs within Saskatchewan. The closest in-province alternative would be at the University of Regina, which offers degrees in Biology as well as Chemistry/Biochemistry. In terms of the number of available courses, faculty numbers and research activity, representation of the various biomedical sciences, and available science-based infrastructure, the programs at the University of Regina are not comparable to the current, or proposed, Biomedical Science programs at the U of S.

Many Canadian Universities, in particular those with Medical Schools, offer degrees within the biomedical sciences. Further, many Canadian Universities have moved towards a multidisciplinary approach to biomedical science education including majors in "Interdisciplinary Biomedical Sciences". Several Canadian Universities have already adopted biomedical science structures which are similar to the program proposed here. These models show a shared priority for multidisciplinary training, although not to the exclusion of specialized majors in specific biomedical science disciplines, including the introduction of Interdisciplinary Biomedical Science or Interdisciplinary Medical Science degrees that are similar in scope and philosophy to the current proposal. Within the Canadian Medical Universities there are examples of such programs being offered through either Arts and Science, Medical Colleges, or shared models. The BMSC program is essential for us to compete with these schools, both for retention of local students as well as to attract students on national and international scales. In particular, there is the opportunity to differentiate our program and our campus by virtue of the existing infrastructure strengths, including the Canadian Light Source (CLS), the Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac) and the new Health Sciences building.

4. Resources available: No additional resources will be required to implement this change. We will be deleting the current majors offered by the previous BMSC departments, replacing them with the new majors and using our current resources to support the new majors. By keeping the program in A&S we are leveraging their existing infrastructure and expertise for student support and program administration (student advising and promotion, and graduation procedures). This will avoid the need to duplicate these services in the COM.

   The Provost, Vice-Provost, Teaching and Learning, Institutional Planning and Assessment, and the Registrar's Office have been consulted at every step in the planning for the new BMSC program.

5. Risks, assumptions, or constraints: We do not believe that there are any risks associated with this new program proposal.

6. Start date: The start of the three replacement majors in BMSC will coincide with the start of the new curriculum in A&S in Sept 2020 (phase one). The anticipated start date of the new BMSC interdisciplinary major with new admissions stream (phase two), will be September 2021

April 18, 2019

To: Planning and Priorities Committee of Council

Re: College of Medicine Letter of Support for the Notice of Intent for the New Biomedical Sciences Undergraduate Program

This is a letter of support confirming the College of Medicine's endorsement of the new collaborative Biomedical Sciences (BMSC) undergraduate program to be jointly offered by the Colleges of Medicine and Arts and Science. This is the initial phase of re-aligning our programs to reflect the new departmental structures that came into effect in July 2018.

The College of Medicine, in cooperation with the College of Arts and Science, has been working hard to build a truly collaborative undergraduate program. We have consulted extensively with BMSC faculty and students to build on our current program. This has led us to create an innovative program with renewed priority on critical thinking, multidisciplinary training, and experiential learning. In addition, we are excited to be partnering with clinical departments to offer new pathology and epidemiology courses. We are confident that this new program will enhance the teaching and research missions of the College.

Our BMSC program has a vision that will see an increase in the numbers and quality of students coming into our program, and to increase the graduates to health professional programs and graduate studies. We want to support the culture and identity of our faculty and their affiliation with the programs and the students they teach, and ensure sustainable and viable programs.

Living by the principles and priorities of the university, our college is committed to working in collaboration with the College of Arts and Science to establish a joint Biomedical Sciences undergraduate degree with four majors.

Kind regards,

Preston Smith
Dean

UNIVERSITY OF SASKATCHEWAN
College of
Arts and Science
ARTSANDSCIENCE.USASK.CA

9 Campus Drive
Saskatoon SK S7N 5A5 Canada
Telephone: 306-966-4232
Email: dean.artsandscience@usask.ca
Web: artsandscience.usask.ca

TO: Dr. Dirk de Boer, chair, Planning and Priorities Committee of Council

FROM: Dr. Gordon DesBrisay, Vice-Dean Academic, College of Arts and Science

DATE: April 18, 2019

RE: NOI for New Biomedical Sciences Undergraduate Program (BMSC)

On behalf of the College of Arts and Science, I am pleased to offer our full support for the proposed new Biomedical Sciences Undergraduate Program (BMSC).

When an earlier NOI for this program was submitted to Planning and Priorities in February 2017, Arts and Science offered support in principle while also raising a number of concerns. I am pleased to report that those concerns have all been addressed.

The NOI is beautifully constructed and very clear, so I will only add that the academic programming changes categorized as "phase one" are relatively unchanged from the 2017 NOI, and we continue to welcome and approve of them. The structural changes mapped out as "phase two" are new to this NOI and constitute a significant step forward that addresses all of the key issues our college had. In particular, as noted in the NOI, keeping the program in Arts and Science eliminates the main TABBS complications that loomed over the earlier proposal and avoids a wasteful duplication of services.

In offering unqualified support for this initiative, I must also extend warm thanks to our colleagues in the College of Medicine who have consulted with us and been model partners at every stage of the lengthy and ongoing conversations on which this NOI rests.

Yours sincerely,

Gordon DesBrisay

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Preston Smith, Dean, College of Medicine; Gordon Desbrisay; Vice-Dean Academic, College of Arts and Science; Scott Napper, College of Medicine; Dawn Giesbrecht, College of Medicine; Alexis Dahl, College of Arts and Science

FROM: Dirk de Boer, chair, planning and priorities committee of Council

DATE: May 10, 2019

RE: **Notice of Intent - Biomedical Sciences undergraduate programs**

Thank you for attending the Planning and Priorities Committee meeting of April 24, 2019 to discuss the notice of intent for the new biomedical sciences undergraduate programs.

The committee is supportive of the collaborative nature of the programs, and is excited about the direct-entry model proposed, as well as of the introduction of a major in neuroscience, given our disciplinary strengths. Even so, there are a few concerns that the committee would like the Colleges of Arts & Science and Medicine to consider as they continue to develop the proposals for these academic programs.

The committee raised concerns about how these programs will be funded. The Provost particularly expressed concern that the College of Arts & Science could be negatively impacted by a joint delivery model, given the different funding models in place for each college. He noted that the complexities of SUFM will make budgeting for programs jointly delivered with the College of Medicine very challenging. The committee wants to see the proponents take the time required to really consider the funding impacts of the joint nature of these programs.

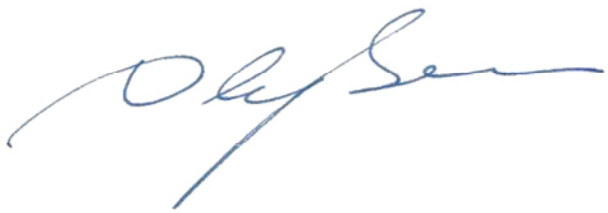
The committee also raised concerns about the names of the programs, noting that they are not likely to be intelligible or relatable for their intended audiences, that is high school students selecting a major. The committee would like to see some thought go into the names of the programs to ensure they resonate with the intended audience.

Concerns were also raised about the level of consultation with other units and departments within the College of Arts & Science about the teaching requirements of these programs and the committee would like to see better and broader consultation.

Finally, the committee felt that with a variety of health-focused undergraduate programs, work needs to be done on differentiating the programs and on ensuring that prospective students are aware of the various options, how they are different, and the potential pathways that the different programs open up. Relatedly, the committee also expressed a desire to see it made easy for students to transfer from one program to another if they find their skills and interests change.

Please do not hesitate to contact me if you have any questions.

Kind regards,



Dirk de Boer

c. Tony Vannelli, provost and vice-president academic
Beth Bilson, university secretary
Russell Isinger, registrar

Consultation:

BMSC programs (general)

On 7/15/2019 1:37 PM, Napper, Scott wrote:
Hi Ken,
Thanks again for meeting with us last week to discuss the proposed new majors of the biomedical science departments.

As discussed, BIOL226.3 is now required for both the Neuroscience and CPPS majors as well as being an elective for the BMI major. Additionally, BIOL430 has been added as an elective for the Neuroscience major. We are committed to exploring other ways that Biology could contribute to the Neuroscience major.

The updated course requirements for each major are attached.

We also welcome further conversations on the development of a Genetics certificate, as well as exploration of other potential synergies.

I am optimistic for a new and strengthened relationship with Biology as we move towards the launch of the shared BMSC Program in 2021.

All the best,
Scott

Dr. Scott Napper
Professor, College of Medicine, Department of Biochemistry, Microbiology & Immunology
Senior Research Scientist, Vaccine and Infectious Disease Organization-International Vaccine Research Centre
University of Saskatchewan
(306) 966-1546

From: Wilson, Ken <ken.wilson@usask.ca>
Sent: Monday, July 15, 2019 3:43 PM
To: Napper, Scott <scott.napper@usask.ca>
Cc: Dahl, Alexis <alexis.dahl@usask.ca>
Subject: Re: Follow-up on biomedical science majors discussion

Thanks Scott

I agree, I think that there are a lot of ways for us to work together both with the launch of BMSC in 2021, but I think your units' courses can help us broaden the appeal of Biology for students, as well. We just need to work on building some mutual understanding

among our faculty members.

I hope you have a great evening
Ken

--
Dr. Kenneth Wilson
Head, Department of Biology
University of Saskatchewan
Saskatoon SK S7N 5E2
Canada

ph# - 1-306-966-4400

From: Napper, Scott <scott.napper@usask.ca>
Sent: Monday, July 15, 2019 1:50 PM
To: Paige, Matthew <matthew.paige@usask.ca>
Cc: Dahl, Alexis <alexis.dahl@usask.ca>
Subject: Changes to Biomedical Science Majors

Greetings Dr. Paige,
I am contacting you in my role as Lead in the evolution of the undergraduate biomedical science programs within the College of Medicine.

As you may be aware, in July 2018 the biomedical sciences departments restructured with Biochemistry merging with Microbiology & Immunology to form Biochemistry, Microbiology, & Immunology (BMI) and Anatomy & Cell Biology merging with Physiology & Pharmacology to form Anatomy, Physiology & Pharmacology (APP).

The new departments are now looking to change their majors to reflect the new departmental structures.

The current Biochemistry and Microbiology & Immunology majors will be replaced with a unified Biochemistry, Microbiology, & Immunology (BMI) major.

The Anatomy & Cell Biology and Physiology & Pharmacology majors will be replaced with majors in Neuroscience as well as Cellular, Physiological, Pharmacological Sciences (CPPS).

The course requirements for the new majors are outlined in the attached documents. *There are no changes to Chemistry requirements of the new majors.* Students will still require CHEM112, CHEM115, and CHEM250. As such, we don't anticipate that these changes will have significant impact on your courses.

We hope to receive your support, and ongoing access to these courses, for this exciting change with our program.

Please let me know if you would like to meet to discuss this further.

All the best,
Scott

Dr. Scott Napper
Professor, College of Medicine, Department of Biochemistry, Microbiology & Immunology
Senior Research Scientist, Vaccine and Infectious Disease Organization-International Vaccine Research Centre
University of Saskatchewan
(306) 966-1546

From: Paige, Matthew <matthew.paige@usask.ca>
Sent: Monday, July 15, 2019 4:19 PM
To: Napper, Scott <scott.napper@usask.ca>
Cc: Kelly, Timothy <tim.kelly@usask.ca>; Dahl, Alexis <alexis.dahl@usask.ca>
Subject: FW: Changes to Biomedical Science Majors

Dear Scott,

Thanks for the email and I'm excited to hear about your new program.

I've CC:'d Tim Kelly, the chemistry Department's undergraduate affairs chair, on this message. He's the primary contact person on undergraduate program issues and he'll be in touch if there are any issues that come up. We're happy to ensure continued access to chemistry courses as needed. As you say, it doesn't look like there will be much impact from our point of view, but Tim will be in touch if there are any concerns.

Best regards,

- Matt.

==========
Matthew Paige
Thorvaldson Professor and Department Head
Department of Chemistry
Thorvaldson 261
University of Saskatchewan
Phone: 1-306-966-4665

From: Paige, Matthew <matthew.paige@usask.ca>
Sent: Monday, July 15, 2019 4:19 PM
To: Napper, Scott <scott.napper@usask.ca>
Cc: Kelly, Timothy <tim.kelly@usask.ca>; Dahl, Alexis <alexis.dahl@usask.ca>
Subject: FW: Changes to Biomedical Science Majors

Dear Scott,

Thanks for the email and I'm excited to hear about your new program.

I've CC:'d Tim Kelly, the chemistry Department's undergraduate affairs chair, on this message. He's the primary contact person on undergraduate program issues and he'll be in touch if there are any issues that come up. We're happy to ensure continued access to chemistry courses as needed. As you say, it doesn't look like there will be much impact from our point of view, but Tim will be in touch if there are any concerns.

Best regards,

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Matthew Paige
Thorvaldson Professor and Department Head
Department of Chemistry
Thorvaldson 261
University of Saskatchewan
Phone: 1-306-966-4665

From: Napper, Scott <scott.napper@usask.ca>
Sent: Monday, July 15, 2019 1:50 PM
To: Paige, Matthew <matthew.paige@usask.ca>
Cc: Dahl, Alexis <alexis.dahl@usask.ca>
Subject: Changes to Biomedical Science Majors

Greetings Dr. Paige,
I am contacting you in my role as Lead in the evolution of the undergraduate biomedical science programs within the College of Medicine.

As you may be aware, in July 2018 the biomedical sciences departments restructured with Biochemistry merging with Microbiology & Immunology to form Biochemistry, Microbiology, & Immunology (BMI) and Anatomy & Cell Biology merging with Physiology & Pharmacology to form Anatomy, Physiology & Pharmacology (APP).

The new departments are now looking to change their majors to reflect the new departmental structures.

The current Biochemistry and Microbiology & Immunology majors will be replaced with a unified Biochemistry, Microbiology, & Immunology (BMI) major.

The Anatomy & Cell Biology and Physiology & Pharmacology majors will be replaced with majors in Neuroscience as well as Cellular, Physiological, Pharmacological Sciences (CPPS).

The course requirements for the new majors are outlined in the attached documents. *There are no changes to Chemistry requirements of the new majors.* Students will still require CHEM112, CHEM115, and CHEM250. As such, we don't anticipate that these changes will have significant impact on your courses.

We hope to receive your support, and ongoing access to these courses, for this exciting change with our program.

Please let me know if you would like to meet to discuss this further.

All the best,
Scott

Dr. Scott Napper
Professor, College of Medicine, Department of Biochemistry, Microbiology & Immunology
Senior Research Scientist, Vaccine and Infectious Disease Organization-International Vaccine Research Centre
University of Saskatchewan
(306) 966-1546

From: Napper, Scott <scott.napper@usask.ca>
Sent: Monday, July 15, 2019 1:57 PM
To: Koustov, Alexandre <sasha.koustov@usask.ca>
Cc: Dahl, Alexis <alexis.dahl@usask.ca>
Subject: Changes to Biomedical Science Majors

Greetings Dr. Koustov,
I am contacting you in my role as Lead in the evolution of the undergraduate biomedical science programs within the College of Medicine.

As you may be aware, in July 2018 the biomedical sciences departments restructured with Biochemistry merging with Microbiology & Immunology to form Biochemistry, Microbiology, & Immunology (BMI) and Anatomy & Cell Biology merging with Physiology & Pharmacology to form Anatomy, Physiology & Pharmacology (APP).

The new departments are now looking to change their majors to reflect the new departmental structures.

The current Biochemistry and Microbiology & Immunology majors will be replaced with a unified Biochemistry, Microbiology, & Immunology (BMI) major.

The Anatomy & Cell Biology and Physiology & Pharmacology majors will be replaced with majors in Neuroscience as well as Cellular, Physiological, Pharmacological Sciences (CPPS).

The course requirements for the new majors are outlined in the attached documents. *There are no changes to Physics requirements of the new majors.* Students will still require 6 cu of physics with PHYS115.3 being required and further option between PHYS117.3 and PHYS125.3. As such, we don't anticipate that these changes will have significant impact on your courses.

We hope to receive your support, and ongoing access to these courses, for this exciting change with our program.

Please let me know if you would like to meet to discuss this further.

All the best,
Scott

Dr. Scott Napper
Professor, College of Medicine, Department of Biochemistry, Microbiology & Immunology
Senior Research Scientist, Vaccine and Infectious Disease Organization-International Vaccine Research Centre
University of Saskatchewan
(306) 966-1546

AGENDA ITEM NO: 10.4

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

REPORT FOR INFORMATION

PRESENTED BY:	Susan Detmer; chair, academic programs committee
DATE OF MEETING:	November 21, 2019
SUBJECT:	**Bachelor of Science in Environmental Geoscience**
COUNCIL ACTION:	**For Information Only**

SUMMARY:
At its October 24, 2019 meeting, the academic programs committee approved the following motion:

- ***That the Academic Programs Committee approve the Bachelor of Science (B.Sc.) in Environmental Geoscience, effective May 2020.***

With the revisions and renaming of the Environmental Earth Sciences program to the Hydrology program (approved at APC on April 17, 2019 and subsequently reported to Council for information in May 2019), there was an opportunity for the Department of Geological Science to establish a distinct undergraduate Environmental Geoscience Program.

Environmental Geoscience is one of three categories of Professional Geoscientist registration with the Association of Professional Engineering and Geoscientists of Saskatchewan (APEGS) and the only one not covered by B.Sc. program offered in the Department of Geological Sciences. This program allows students to focus on geochemistry, mineralogy, and hydrogeology.

As job growth in areas of environmental protection and resource management continue, there will continue to be a demand for environmental geoscientists and there will be a strong market for graduates from this program.

It is anticipated that enrollment growth in this area will reflect the burgeoning employment opportunities and anticipate a steady enrollment, given that jobs in the sector are not tied to fluctuations in the commodity cycles.

The B.Sc. in Environmental Geoscience adheres to existing Arts and Science program templates and so required approval at the Academic Programs Committee (APC). The committee was pleased with the alignment of this degree program with the requirements for professional designation with APEGS.

ATTACHMENTS:

1. Environmental Geoscience – New Program Proposal

UNIVERSITY OF SASKATCHEWAN	**Proposal for Academic or Curricular Change**

PROPOSAL IDENTIFICATION

Title of proposal: Environmental Geoscience

Degree(s): Bachelor of Science (B.Sc.)

Field(s) of Specialization: Environmental Geoscience

Level(s) of Concentration: Honours, Four-year

Degree College: Arts and Science

Contact person(s) (name, telephone, fax, e-mail):

Matt Lindsay
Department of Archaeology and Anthropology
College of Arts and Science
email: matt.lindsay@usask.ca
306-966-5693

Sam Butler
Head, Department of Geological Sciences
College of Arts and Science
email: sam.butler@usask.ca
306-966-5702

Proposed date of implementation: May 2020

Proposal Document

Geoscience is a diverse scientific field with sub-disciplines including geochemistry, sedimentology, geomicrobiology, geophysics, mineralogy, paleontology, and hydrogeology. Geoscientists integrate knowledge of these and other sub-disciplines to improve our understanding of physical, chemical, and biological aspects of the Earth system in the past, present, and future. Geoscience is also fundamental for addressing societal needs that include (i) meeting growing demand for non-renewable and renewable resources and (ii) minimizing environmental impacts of resource development.

The Department of Geological Sciences has a rich history of undergraduate teaching through our Geology, Geophysics, and Palaeobiology programs. We were one of three departments that initiated the undergraduate Environmental Earth Sciences (EES) program, and remain a key partner in the program, which is currently offered by the Department of Geography and Planning. However, the pending EES program revision and renaming to Hydrology presents an opportunity for the Department of Geological Sciences to establish a distinct undergraduate Environmental Geoscience program.

Environmental Geoscience is one of three categories of Professional Geoscientist (P.Geo.) registration with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) and the only category not currently covered by a B.Sc. program offered through the Department of Geological Sciences. Our new program will allow students to pursue options that were previously available through the EES program, but are no longer the focus of the new Hydrology program. Specifically, our new program will have a strong focus on geochemistry, which is a critical area of expertise for many employment opportunities in the environmental geoscience field.

Undergraduate Environmental Geoscience or related programs are offered by many Geoscience departments at Canadian universities including the University of Alberta, the University of Toronto, and the University of Waterloo. The recent growth in environmental geoscience programs largely reflects employment opportunities. A recent survey by the United States Bureau of Labor predicts substantial growth (i.e., 14%) in geoscience employment from 2016 to 2026. This growth, which is faster than the average for all occupations, is largely attributed to environmental management and land reclamation associated with resource development. Although geoscience-specific predictions were not available, a 2017 study by ECO Canada predicted 24% overall growth in environmental jobs by 2024. The majority of these ~90,000 jobs will be in the areas of environmental protection and resource management, and we anticipate there will be substantial demand for environmental geoscientists.

Reclamation costs for current and historical resource development activities across Canada will likely exceed $150 billion in the coming years and decades. Canada is home to over 10,000 abandoned mine sites and an even larger numbers of orphaned (inactive) oil and gas wells. Reclamation of the Giant Mine (Yellowknife, NT) and the Faro Mine (Faro, YT) are alone expected to cost Canadian taxpayers well over $1 billion. Closer to home, reclamation costs for

the Gunnar Mine (Uranium City, SK) have ballooned from initial estimates of $25 million to well over $250 million with additional increases likely. Orphaned oil and gas wells in Saskatchewan have an estimated liability of $4 billion, while the British Columbia Auditor General recently pegged these costs at $3 billion within that province. The Alberta Energy Regulator has estimated that reclamation costs will approach $25 billion for oil sands operations, while the liability for orphaned oil and gas wells in that province is expected to exceed $100 billion. Successful reclamation of these sites requires diverse expertise, with environmental geoscience–particularly geochemistry, mineralogy, and hydrogeology–central to these activities.

Graduates of this Environmental Geoscience program would gain knowledge and skills that are highly sought after by the private and public sectors. In fact, we reached out to several recent graduates currently working in this field to secure external opinions on (i) the potential demand for Environmental Geoscience graduates and (ii) specific knowledge and skills that would promote success in Environmental Geoscience. Their responses followed two general themes. First, respondents verified that considerable and sustained demand for Environmental Geoscientists exists among potential employers. For example, due to low uranium prices, Cameco Corporation has laid off hundreds of workers and shuttered much of their exploration and production activities in Saskatchewan over the past few years. Nevertheless, their environmental department has maintained and even added recent U of S Geology graduates to ensure they can meet regulatory monitoring and reporting requirements. Second, respondents indicated that quantitative skills in various aspects of geochemistry are critical, while a solid foundation in mineralogy, geomicrobiology, and hydrogeology are also highly beneficial. All respondents work for consulting firms based in western Canada with a focus on environmental management and land reclamation associated with the resource sector.

Impact on the Department:

Consistent with enrollment in our undergraduate Geology and Geophysics programs, we anticipate that enrollment in the Environmental Geoscience program will reflect employment opportunities. Enrollment in the Geology and Geophysics programs has decreased over the past three years due to declining mineral, and oil and gas exploration and production in western Canada and globally. As with previous commodity cycles, student enrollment in these programs will recover with resource prices, linked to increases in population, renewable and non-renewable energy requirements, and global economic activity. In contrast, we anticipate moderate initial student demand for the Environmental Geoscience program followed by steady, but modest enrollment growth over time. We also anticipate substantially less fluctuation in enrollment as employment opportunities are not closely aligned with commodity cycles.

Enrollment in our core Geology courses has varied from 50 to 100 over the past decade with graduating cohorts from our Geology and Geophysics programs averaging 40 students over this time. Graduating cohorts for the EES program have ranged from 6 to 8 students over this time.

Students enrolled in our undergraduate Geology programs often complete minors in Water Science, Geomatics, and Chemistry. Demand for senior courses (e.g., Aqueous Geochemistry, Geomicrobiology) and honours research projects with an environmental geoscience focus have also grown in recent years. This trend suggests students will be drawn to this new program. We therefore anticipate moderate initial interest in the Environmental Geosciences program with growing interest thereafter. Based on historical enrollment in our other programs and a growing job market, we anticipate enrollment of approximately 20 students (declared) after three years and between 30 to 40 students (declared) after 5 years. We also anticipate recovering enrollment in our Geology program and, therefore, an overall increase in undergraduate enrollment in our programs over the next 5 years.

Resources:

The Department of Geological Sciences can deliver the new Environmental Geoscience program without any additional resources. All courses to be included in the programs are currently available through our department, other units in the College of Arts and Science, and across campus. Although we will expand our undergraduate course offerings to include a new field school in environmental geoscience (GEOL 3XX.3), the department currently has the resources required to cover this additional course. The new field course will complement recently-approved courses in Geomicrobiology (GEOL 315.3) and Organic Geochemistry (GEOL 350.3), which are included as optional C4 Major Requirement courses in the proposed program.

We plan to implement the new program in September 2020 and we will develop a proposal for the new field school in time for the 2022–2023 academic year. This timing will ensure that students who declare Environmental Geoscience as their major can complete this field school by third year of their program. Current students electing to declare this new major will be permitted to count GEOL 308.3, which is currently listed in P.Geo. licensure requirements for the environmental geoscience stream, toward their program requirements.

College Statement

From Gordon DesBrisay, Vice-Dean Academic

I am pleased to confirm that the College of Arts and Science supports the creation of a major in Environmental Geoscience.

The College of Arts and Science is working to provide innovative program options that meet student need and demand. The new program will enable graduates to be employed in the growing fields of environmental management and land reclamation. The new program continues the College's tradition of offering education in this area, previously as part of the Environmental Earth Sciences program, but does so in a more structured way that ensures that each graduate will qualify for the Professional Geoscientist licensure.

The Academic Programs Committee (BSc) approved the proposal on September 10, 2019, as did the College Faculty Council on October 10, 2019.

Planning and Priorities Committee

Notice of Intent for New Programs
Bachelor of Science in Environmental Geoscience

The Department of Geological Sciences plans to propose a new B.Sc. in Environmental Geoscience program with Four-year and Honours options that is (i) strongly founded upon core geoscience disciplines and (ii) distinct from existing and proposed environmental programs at the U of S.

Motivation

Geoscience is a diverse scientific field with sub-disciplines including geochemistry, sedimentology, geomicrobiology, geophysics, mineralogy, paleontology, and hydrogeology. Geoscientists integrate knowledge of these and other sub-disciplines to improve our understanding of physical, chemical, and biological aspects of the Earth system in the past, present, and future. Geoscience is also fundamental for addressing societal needs that include (i) meeting growing demand for non-renewable and renewable resources and (ii) minimizing environmental impacts of resource development.

The Department of Geological Sciences has a rich history of undergraduate teaching through our Geology, Geophysics, and Palaeobiology programs. We were one of the three departments that initiated the undergraduate Environmental Earth Sciences (EES) program, and remain a key partner in the program, which is currently offered by the Department of Geography and Planning. However, the pending EES program revision and renaming to Hydrology presents an opportunity for the Department of Geological Sciences to establish a distinct undergraduate Environmental Geoscience program. Environmental Geoscience is one of three categories of Professional Geoscientist (P.Geo.) registration with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) and the only category not currently covered by a B.Sc. program offered through the Department of Geological Sciences. Our new program will allow students to pursue options that were previously available through the EES program, but are no longer the focus of the new Hydrology program. Specifically, our new program will have a strong focus on geochemistry, which is a critical area of expertise for many employment opportunities in the environmental geoscience field.

Undergraduate Environmental Geoscience or related programs are offered by many Geoscience departments at Canadian universities including the University of Alberta, the University of Toronto, and the University of Waterloo. The recent growth in environmental geoscience programs largely reflects employment opportunities. A recent survey by the United States Bureau of Labor predicts substantial growth (i.e., 14%) in geoscience employment from 2016 to 2026. This growth, which is faster than the average for all occupations, is largely attributed to environmental management and land reclamation associated with resource development. Although geoscience-specific predictions were not available, a 2017 study by ECO Canada predicted 24% overall growth in environmental jobs by 2024. The majority of these ~90,000 jobs will be in the areas of environmental protection and resource management, and we anticipate there will be substantial demand for environmental geoscientists.

Reclamation costs for current and historical resource development activities across Canada will likely exceed $150 billion in the coming years and decades. Canada is home to over 10,000 abandoned mine sites and an even larger numbers of orphaned (inactive) oil and gas wells. Reclamation of the Giant Mine (Yellowknife, NT) and the Faro Mine (Faro, YT) are alone expected to cost Canadian taxpayers well over $1 billion. Closer to home, reclamation costs for the Gunnar Mine (Uranium City, SK) have ballooned from initial estimates of $25 million to well over $250 million with additional increases likely. Orphaned oil and gas wells in Saskatchewan have an estimated liability of $4 billion, while the British Columbia Auditor General recently pegged these costs at $3 billion within that province. The Alberta Energy Regulator has estimated that reclamation costs will approach $25 billion for oil sands operations, while the liability for orphaned oil and gas wells in that province is expected to exceed $100 billion. Successful reclamation of these sites requires diverse expertise, with environmental geoscience–particularly geochemistry, mineralogy, and hydrogeology–central to these activities.

Graduates of this Environmental Geoscience program would gain knowledge and skills that are highly sought after by the private and public sectors. In fact, we reached out to several recent graduates currently working in this field to secure external opinions on (i) the potential demand for Environmental Geoscience graduates and (ii) specific knowledge and skills that would promote success in Environmental Geoscience. Their responses followed two general themes. First, respondents verified that considerable and sustained demand for Environmental Geoscientists exists among potential employers. For example, due to low uranium prices, Cameco Corporation has laid off hundreds of workers and shuttered much of their exploration and production activities in Saskatchewan over the past few years. Nevertheless, their environmental department has maintained and even added recent U of S Geology graduates to ensure they can meet regulatory monitoring and reporting requirements. Second, respondents indicated that quantitative skills in various aspects of geochemistry are critical, while a solid foundation in mineralogy, geomicrobiology, and hydrogeology are also highly beneficial. All respondents work for consulting firms based in western Canada with a focus on environmental management and land reclamation associated with the resource sector.

Anticipated Student Demand

Consistent with enrollment in our undergraduate Geology and Geophysics programs, we anticipate that enrollment in the Environmental Geoscience program will reflect employment opportunities. Enrollment in the Geology and Geophysics programs has decreased over the past three years due to declining mineral, and oil and gas exploration and production in western Canada and globally. As with previous commodity cycles, student enrollment in these programs will recover with resource prices, linked to increases in population, renewable and non-renewable energy requirements, and global economic activity. In contrast, we anticipate moderate initial student demand for the Environmental Geoscience program followed by steady, but modest enrollment growth over time. We also anticipate substantially less fluctuation in enrollment as employment opportunities are not closely aligned with commodity cycles.

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Science, Geomatics, and Chemistry. Demand for senior courses (e.g., Aqueous Geochemistry, Geomicrobiology) and honours research projects with an environmental geoscience focus have also increased in recent years. This trend suggests students will be drawn to this new program. We therefore anticipate moderate initial interest in the Environmental Geosciences program with growing interest thereafter. Based on historical enrollment in our other programs and a growing job market, we anticipate enrollment of approximately 20 students (declared) after three years and between 30 to 40 students (declared) after 5 years. We anticipate an overall increase in undergraduate enrollment in our programs after 5 years.

Alignment with University Vision

We believe this new program will help to advance the university's mission, vision and values. Geoscience, which is defined as the scientific study of the Earth, is an inherently international discipline. Similarly, Environmental Geoscience is not constrained by international borders. Many developed and developing nations worldwide have incredibly poor environmental performance records associated with their resource sectors. For example, active and historical mining operations on all continents have had severe consequences for the environment and human health. These impacts are often disproportionately experienced by marginalized groups including Indigenous communities. The interdisciplinary nature of this Environmental Geoscience program will help ensure its graduates can play a central role in reducing future impacts of resource development

This new program also aligns with two Signature Areas of Research. Sustainable resource development is a central theme of the *Energy and Mineral Resources* signature area, while minimizing water pollution is a central theme of the *Water Security* signature area. By training undergraduate students in core aspects of these signature areas, the Environmental Geoscience program will contribute to the growing reputation of the U of S as a leader in both water security and sustainable resource development.

Our decision to pursue this new program proposal was bolstered by the new College of Arts and Science plan, entitled "Think Big – Be Bold: Arts and Science 2025". Our proposal clearly aligns with several aspects of this plan. Our proposed Environmental Geoscience program will help to "sustain, coordinate, [and] expand environmental programming". It will involve coordination and collaboration with other Arts and Science departments (e.g., Geography and Planning, Chemistry, Physics, Biology, Mathematics and Statistics) and other units across campus (e.g., Soil Science and Civil, Geological and Environmental Engineering). Additionally, the targeted learning outcomes will differ substantially from the proposed Hydrology program and will, therefore, help to expand undergraduate environmental programming available at the University of Saskatchewan.

The academic plan described within the new College plan establishes six key goals. We believe that this new program will directly address most of these goals, either now or in the near future. We expect the Environmental Geoscience program to attract new students to the College and to provide our graduates with new opportunities for future success. As mentioned above, the Environmental Geoscience program will be highly interdisciplinary, reflecting the nature of Geoscience overall. Our students will be required to complete courses in biology, chemistry, computer science, geography, mathematics, physics, soil science, and statistics. The program

will focus also on development of quantitative skills and will provide graduates with a definite path to P.Geo. registration with APEGS. This program also addresses indigenization goals, which will be met through the indigenous learning requirement being implemented in May 2020 by the College of Arts and Science.

Relationship to Other Programs

There are currently eight undergraduate programs with an environmental science or engineering focus offered across campus. These programs include:

Environmental Biology (B.Sc.), College of Arts and Science;
Environmental Earth Sciences (B.Sc.), College of Arts and Science;
Environmental Engineering (B.E.), College of Engineering;
Environmental Science (B.S.A.), College of Agriculture and Bioresources;
Environment and Society (B.A., Sc.), College of Arts and Science;
Renewable Resource Management (B.Sc.), College of Agriculture and Bioresources; and
Toxicology (B.Sc.), College of Arts and Science.

Among existing programs, only the EES program offered through the Department of Geography and Planning has a geoscience focus. However, the pending refocussing and renaming of the EES program affords us the opportunity to develop this distinct new undergraduate program in Environmental Geoscience. Curriculum proposed for the undergraduate Hydrology program represents a shift from the EES program toward hydrology and geomatics, which are core strengths of the Department of Geography and Planning. In contrast, our proposed Environmental Geoscience program will emphasize geochemistry, which is a core strength of the Department of Geological Sciences. Again, all Environmental Geoscience graduates will meet knowledge requirements for P.Geo. registration, which is legally required for practicing geoscience in Saskatchewan and across Canada.

Resource Requirements

The Department of Geological Sciences can deliver the new Environmental Geoscience program without any additional resources. All courses to be included in the programs are currently available through our department, other units in the College of Arts and Science, and across campus. Though we do plan to expand our undergraduate course offerings to include a field school in environmental geoscience (GEOL 3XX.3) and a new course in analytical geochemistry (GEOL 4XX.3), the department has the resources to cover these additional courses. These new courses will complement recently-approved courses in Geomicrobiology (GEOL 315.3) and Organic Geochemistry (GEOL 350.3), which will be included as options for the new program.

In addition to GEOL courses, students enrolled in these programs would complete up to 15 credit units of GEOG courses. These GEOG courses are currently listed as optional courses for our undergraduate Geology programs. With recent declines in undergraduate Geology program enrollment, we do not anticipate that overall demand for GEOG courses to exceed historical enrollment in the coming years.

Risks, Assumptions, and Constraints

We do not believe there are any risks associated with the new undergraduate Environmental Geoscience program, particularly as the College and University have goals of increasing environmental programming. Growing interest in Environmental Geoscience courses among our undergraduate students suggests this program will be successful. Due to the strong geoscience focus of this program, we do not foresee a risk to enrollment in other undergraduate environmental science and engineering programs. The program will complement the Geology, Geophysics, and Palaeobiology programs, given the breadth of the sub-disciplines in the geosciences that attract students with varied interests, and thus we also do not believe that enrollment in this program will translate to declining numbers in the other programs in the Department of Geological Sciences.

Implementation

We plan to implement these new programs in September 2020. As described above, we can deliver these programs with existing courses and without additional resources. We will develop proposals for the two additional courses to facilitate their implementation in time for the 2021–2022 academic year. This timing will ensure that students who declare Environmental Geoscience as their major can complete these courses by third year of their program. Current students electing to declare this major will be permitted to count our existing field school (GEOL 308.3) toward their program requirements.

Planning and Priorities Committee
Notice of Intent for New Programs
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1. Motivation

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2. Anticipated Student Demand

Consistent with enrollment in our undergraduate Geology and Geophysics programs, we anticipate that enrollment in the Environmental Geoscience program will reflect employment opportunities. Enrollment in the Geology and Geophysics programs has decreased over the past three years due to declining mineral, and oil and gas exploration and production in western Canada and globally. As with previous commodity cycles, student enrollment in these programs will recover with resource prices, linked to increases in population, renewable and non-renewable energy requirements, and global economic activity. In contrast, we anticipate moderate initial student demand for the Environmental Geoscience program followed by steady, but modest enrollment growth over time. We also anticipate substantially less fluctuation in enrollment as employment opportunities are not closely aligned with commodity cycles.

Enrollment in our core Geology courses has varied from 50 to 100 over the past decade with graduating cohorts from our Geology and Geophysics programs averaging 40 students over this time. Graduating cohorts for the EES program have ranged from 6 to 8 students over this time. Students enrolled in our undergraduate Geology programs often complete minors in Water Science,

Geomatics, and Chemistry. Demand for senior courses (e.g., Aqueous Geochemistry, Geomicrobiology) and honours research projects with an environmental geoscience focus have also increased in recent years. This trend suggests students will be drawn to this new program. We therefore anticipate moderate initial interest in the Environmental Geosciences program with growing interest thereafter. Based on historical enrollment in our other programs and a growing job market, we anticipate enrollment of approximately 20 students (declared) after three years and between 30 to 40 students (declared) after 5 years. We anticipate an overall increase in undergraduate enrollment in our programs after 5 years.

3. Alignment with University Vision

We believe this new program will help to advance the university's mission, vision and values. Geoscience, which is defined as the scientific study of the Earth, is an inherently international discipline. Similarly, Environmental Geoscience is not constrained by international borders. Many developed and developing nations worldwide have incredibly poor environmental performance records associated with their resource sectors. For example, active and historical mining operations on all continents have had severe consequences for the environment and human health. These impacts are often disproportionately experienced by marginalized groups including Indigenous communities. The interdisciplinary nature of this Environmental Geoscience program will help ensure its graduates can play a central role in reducing future impacts of resource development

This new program also aligns with two Signature Areas of Research. Sustainable resource development is a central theme of the *Energy and Mineral Resources* signature area, while minimizing water pollution is a central theme of the *Water Security* signature area. By training undergraduate students in core aspects of these signature areas, the Environmental Geoscience program will contribute to the growing reputation of the U of S as a leader in both water security and sustainable resource development.

Our decision to pursue this new program proposal was bolstered by the new College of Arts and Science plan, entitled "Think Big – Be Bold: Arts and Science 2025". Our proposal clearly aligns with several aspects of this plan. Our proposed Environmental Geoscience program will help to "sustain, coordinate, [and] expand environmental programming". It will involve coordination and collaboration with other Arts and Science departments (e.g., Geography and Planning, Chemistry, Physics, Biology, Mathematics and Statistics) and other units across campus (e.g., Soil Science and Civil, Geological and Environmental Engineering). Additionally, the targeted learning outcomes will differ substantially from the proposed Hydrology program and will, therefore, help to expand undergraduate environmental programming available at the University of Saskatchewan.

The academic plan described within the new College plan establishes six key goals. We believe that this new program will directly address most of these goals, either now or in the near future. We expect the Environmental Geoscience program to attract new students to the College and to provide our graduates with new opportunities for future success. As mentioned above, the Environmental Geoscience program will be highly interdisciplinary, reflecting the nature of Geoscience overall. Our students will be required to complete courses in biology, chemistry, computer science, geography, mathematics, physics, soil science, and statistics. The program will focus also on development of quantitative skills and will provide graduates with a definite path to P.Geo. registration with APEGS. This program also addresses indigenization goals, which will be met

through the indigenous learning requirement being implemented in May 2020 by the College of Arts and Science.

4. Relationship to Other Programs

There are currently eight undergraduate programs with an environmental science or engineering focus offered across campus. These programs include:

- Environmental Biology (B.Sc.), College of Arts and Science;
- Environmental Earth Sciences (B.Sc.), College of Arts and Science;
- Environmental Engineering (B.E.), College of Engineering;
- Environmental Science (B.S.A.), College of Agriculture and Bioresources;
- Environment and Society (B.A., Sc.), College of Arts and Science;
- Renewable Resource Management (B.Sc.), College of Agriculture and Bioresources; and
- Toxicology (B.Sc.), College of Arts and Science.

Among existing programs, only the EES program offered through the Department of Geography and Planning has a geoscience focus. However, the pending refocussing and renaming of the EES program affords us the opportunity to develop this distinct new undergraduate program in Environmental Geoscience. Curriculum proposed for the undergraduate Hydrology program represents a shift from the EES program toward hydrology and geomatics, which are core strengths of the Department of Geography and Planning. In contrast, our proposed Environmental Geoscience program will emphasize geochemistry, which is a core strength of the Department of Geological Sciences. Again, all Environmental Geoscience graduates will meet knowledge requirements for P.Geo. registration, which is legally required for practicing geoscience in Saskatchewan and across Canada.

5. Resource Requirements

The Department of Geological Sciences can deliver the new Environmental Geoscience program without any additional resources. All courses to be included in the programs are currently available through our department, other units in the College of Arts and Science, and across campus. Though we do plan to expand our undergraduate course offerings to include a field school in environmental geoscience (GEOL 3XX.3) and a new course in analytical geochemistry (GEOL 4XX.3), the department has the resources to cover these additional courses. These new courses will complement recently-approved courses in Geomicrobiology (GEOL 315.3) and Organic Geochemistry (GEOL 350.3), which will be included as options for the new program.

In addition to GEOL courses, students enrolled in these programs would complete up to 15 credit units of GEOG courses. These GEOG courses are currently listed as optional courses for our undergraduate Geology programs. With recent declines in undergraduate Geology program enrollment, we do not anticipate that overall demand for GEOG courses to exceed historical enrollment in the coming years.

6. Risks, Assumptions, and Constrains

We do not believe there are any risks associated with the new undergraduate Environmental Geoscience program, particularly as the College and University have goals of increasing

environmental programming. Growing interest in Environmental Geoscience courses among our undergraduate students suggests this program will be successful. Due to the strong geoscience focus of this program, we do not foresee a risk to enrollment in other undergraduate environmental science and engineering programs. The program will complement the Geology, Geophysics, and Palaeobiology programs, given the breadth of the sub-disciplines in the geosciences that attract students with varied interests, and thus we also do not believe that enrollment in this program will translate to declining numbers in the other programs in the Department of Geological Sciences.

7. Implementation

We plan to implement these new programs in September 2020. As described above, we can deliver these programs with existing courses and without additional resources. We will develop proposals for the two additional courses to facilitate their implementation in time for the 2021–2022 academic year. This timing will ensure that students who declare Environmental Geoscience as their major can complete these courses by third year of their program. Current students electing to declare this major will be permitted to count our existing field school (GEOL 308.3) toward their program requirements.

UNIVERSITY OF SASKATCHEWAN
College of
Arts and Science
ARTSANDSCIENCE.USASK.CA

9 Campus Drive
Saskatoon SK S7N 5A5 Canada
Telephone: 306-966-4232
Email: dean.artsandscience@usask.ca
Web: artsandscience.usask.ca

TO: Dirk de Boer, Chair, Planning and Priorities Committee

FROM: Gordon DesBrisay, Vice-Dean Academic, Arts and Science

DATE: April 15, 2019

RE: Environmental Geoscience Program

I am pleased to confirm that the College of Arts and Science supports the development of a new B.Sc. degree program in Environmental Geoscience with four-year and honours options in the Department of Geological Sciences.

The new program arises partly in response to impending changes made by the Department of Geography and Planning to the outgoing Environmental Earth Sciences (ESS) program, which is being reconfigured as a new Hydrology program (a development the college also supports). The turn to hydrology has opened up fresh opportunities for the Department of Geological Sciences to establish a distinct Environmental Geoscience program with a strong focus on geochemistry and closer alignment with the APEGS professional registration requirements.

In joining the broad range of environmental studies programs on our campus, we are confident that Environmental Geoscience will enhance but not duplicate existing offerings. The proposed program will provide our students with greater choice in their studies, wide interdisciplinary and experiential learning opportunities, and strong professional opportunities in a field that, being tied to both supporting and cleaning up after resource extraction activities, is less vulnerable to the ups and downs of the resource sector than most other areas of geoscience.

This is a most welcome initiative, and we hope that Planning and Priorities will join us in supporting it.

Gordon DesBrisay

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Peta Bonham-Smith, dean, College of Arts & Science; Sam Butler, department head, Department of Geological Sciences; Matt Lindsay, Department of Geological Sciences; Alexis Dahl, director of the Programs Office, College of Arts & Science

FROM: Dirk de Boer, chair, planning and priorities committee of Council

DATE: May 30, 2019

RE: **Notice of Intent – Bachelor of Science in Environmental Geoscience**

Thank you for attending the planning and priorities committee meeting of May 8, 2019 to discuss the notice of intent for the proposed Bachelor of Science in Environmental Geoscience.

The committee appreciated the effort to offer a clearly structured program focused on a well-defined area of expertise. It was important to the committee that the program would be situated within the overall context of environmental sciences. This program is a good idea and the professional pathways are clear. Consultation with APEGS will be important to ensuring that the program changes are consistent with the demands of prospective employers in the industry.

The committee was generally supportive of the idea but expressed concern about the potential demand, in particular because the new program may simply be moving existing students away from other programs in Arts & Science, including from the other programs offered by the department. Demand for this new program is also a risk in view of decreasing enrolment in geology.

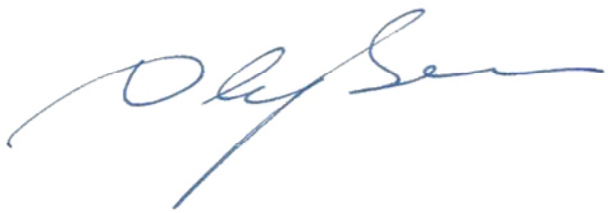
The committee believed that with the present variety of environment-focused undergraduate programs, work needs to be done on distinguishing between the programs and on ensuring that prospective students are aware of the various options, how they are different, and the potential career prospects that the different programs provide. Relatedly, the committee also expressed a desire to see it made easy for students to transfer from one program to another if they find that their skills and interests change, and to ladder into graduate programs.

Finally, concerns were raised about the lack of consultation with other colleges and departments. Consultation with other units, including the Department of Soil Sciences, Agriculture and Bioresources, and SENS are imperative for avoiding any potentially negative consequences of the program changes for students.

Thank you for your work on this program's development. We encourage you to consider this feedback in the next iteration of the proposal that is presented to the academic programs committee of University Council.

Please do not hesitate to contact me if you have any questions.

Kind regards,



Dirk de Boer

c. Tony Vannelli, provost and vice-president academic
Beth Bilson, university secretary
Russell Isinger, registrar

Program Description

Environmental geoscience is the scientific study of relationships between Earth processes, human activities, and the environment. Environmental Geoscientists integrate knowledge of physical, chemical, and biological aspects of the Earth system to investigate how geological processes have influenced the environment over geologic time. They also study recent environmental impacts of human activities, including extraction of energy and mineral resources, and explore ways to minimize these impacts.

With both Four-year and Honours options, the B.Sc. in Environmental Geoscience program ensures students develop a strong foundation in core geoscience disciplines and gain knowledge of interrelated environmental geoscience fields. Consequently, students complete courses in topics including geology, geochemistry, hydrogeology, mineralogy, and geophysics.

All graduates meet knowledge requirements for Professional Geoscientist (P.Geo.) licensure with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS), which is legally required to practice geoscience in Saskatchewan and across Canada.

Graduates of this program will have wide ranging employment opportunities in both the private and public sector. Ongoing growth of job opportunities in environmental geoscience with resource companies, consulting firms, and governmental agencies make this program an excellent option for students with interest in geoscience and the environment.

B.Sc. in Environmental Geoscience (Honours)

Students interested in entering an Honours program should consult advisors in the department concerned before registering for their second year. Of the 120 credit units required for the B.Sc. Honours degree, at least 66 credit units must be at the senior level. Application for admission to Honours is not considered until successful completion of at least 60 credit units with a Cumulative Weighted Average of at least 70% overall and at least 70% in the subject of Honours. For further details, please see the ***Academic Policies*** section.

Note: As t*his program is structured to ensure graduates meet APEGS knowledge requirements for P.Geo. registration in the Environmental Geoscience stream, the knowledge requirements are noted below where appropriate. These notes will not appear in the* Course and Program Catalogue.

C1 College Requirement (15 credit units)

English Language Requirement (6 credit units)

Choose **6 credit units** from the following list:

- Approved list.

Indigenous Learning (3 credit units)

Choose **3 credit units** from the following list:

- Approved list.

Quantitative Reasoning (6 credit units)

Complete the following **6 credit units**:

- MATH 110.3 Calculus I APEGS 1A
- MATH 116.3 Calculus II APEGS 1B

C2 Breadth Requirement (6 credit units)

Choose **6 credit units** from the following:

Fine Arts
Humanities
Social Sciences
Arts and Science No Program Type

C3 Cognate Requirement (36 credit units)

Junior Course Requirement (18 credit units)

Complete the following **9 credit units**:

- CHEM 112.3 General Chemistry I APEGS 1A
- CHEM 115.3 General Chemistry II APEGS 1B
- PHYS 115.3 Physics and the Universe APEGS 1A

Choose **3 credit units** from the following list:

- PHYS 117.3 Physics for the Life Sciences APEGS 1B
- PHYS 125.3 Physics and Technology APEGS 1B

Choose **3 credit units** from the following list:

- BIOL 120.3 The Nature of Life APEGS 1B
- BIOL 121.3 The Diversity of Life APEGS 1B

Choose **3 credit units** from the following list:

- CMPT 140.3 Introduction to Creative Computing APEGS 1B
- CMPT 141.3 Introduction to Computer Science APEGS 1B

Senior Course Requirement (18 credit units)

Choose **3 credit units** from the following list:

- STAT 241.3 Probability Theory APEGS 1B
- STAT 245.3 Introduction to Statistical Methods APEGS 1B

Complete the following **9 credit units**:

- EVSC 220.3 Environmental Soil Science APEGS 2B
- GEOG 225.3 Hydrology of Canada APEGS 2B
- GEOG 222.3 Introduction to Geomatics APEGS 2B

Choose **3 credit units** from the following list:

- GEOG 322.3 Intro to Geographic Information Systems APEGS 2C
- GEOG 323.3 Remote Sensing APEGS 2C
- GEOG 386.3 Environmental Impact Assessment APEGS 2C

Choose **3 credit units** from the following list:

- CHEM 221.3 Analytical Chemistry I
- EVSC 210.3 Environmental Physics

C4 Major Requirement (54 credit units)

Introductory Geosciences (6 credit units)

Complete the following **6 credit units**:

- GEOL 121.3 Earth Processes
- GEOL 122.3 Earth History

Fundamental Geosciences (30 credit units)

Complete the following **30 credit units**:

- GEOL 206.3 Earth Systems APEGS 2C
- GEOL 224.3 Mineralogy APEGS 2A

- GEOL 226.3 Introductory Petrology APEGS 2C
- GEOL 229.3 Introductory Geochemistry APEGS 2B
- GEOL 245.3 Introduction to Sedimentary Environments APEGS 2A
- GEOL 258.3 Structural Geology APEGS 2A
- GEOL 308.3 Field School Sedimentary Rocks APEGS 2A
- GEOL 384.3 Introduction to Applied Geophysics OR APEGS 2B
  GEOL 334.3 Gravity, Magnetics, Electromagnetic and Radiation Methods APEGS 2B
- GEOL 413.3 Aqueous Geochemistry APEGS 2C
- GEOL 429.3 Isotope Geochemistry APEGS 2C

Environmental Geosciences (18 credit units)

Choose **6 credit units** from each of the following categories:

Geochemistry & Mineralogy

- GEOL 315.3 Geomicrobiology APEGS 2C
- GEOL 350.3 Organic Geochemistry APEGS 2C
- GEOL 490.3 Geological Sciences Research APEGS 2C
- GEOL 492.6 Geological Sciences Research APEGS 2C

Hydrogeology & Hydrology

- SLSC 322.3 Environmental Soil Physics APEGS 2C
- GEOG 328.3 Groundwater Hydrology APEGS 2C
- GEOE 375.3 Engineering Hydrogeology APEGS 2C
- GEOL 487.3 Geophysics Field Methods APEGS 2C

Environmental Chemistry

- SLSC 313.3 Environmental Soil Chemistry APEGS 2C
- CHEM 375.3 Environmental Chemistry APEGS 2C
- EVSC 421.3 Contaminated Site Management and Remediation APEGS 2C
- TOX 301.3 Environmental Toxicology APEGS 2C

C5 Electives Requirement (9 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Honours program, of which at least 66 credit units must be at the 200-level or higher.

B.Sc. in Environmental Geoscience (Four-year)

Note: *This program meets APEGS knowledge requirements to ensure graduates are eligible for P.Geo. registration in the Environmental Geoscience stream. Consequently, knowledge requirements are noted below where appropriate.*

C1 College Requirement (15 credit units)

English Language Requirement (6 credit units)

Choose **6 credit units** from the following list:

- Approved list.

Indigenous Learning (3 credit units)

Choose **3 credit units** from the following list:

- Approved list.

Quantitative Reasoning (6 credit units)

Complete the following **6 credit units**:

- MATH 110.3 Calculus I — APEGS 1A
- MATH 116.3 Calculus II — APEGS 1B

C2 Breadth Requirement (6 credit units)

Choose **6 credit units** from the following:

Fine Arts
Humanities
Social Sciences
Arts and Science No Program Type

C3 Cognate Requirement (36 credit units)

Junior Course Requirement (18 credit units)

Complete the following **9 credit units**:

- CHEM 112.3 General Chemistry I — APEGS 1A
- CHEM 115.3 General Chemistry II — APEGS 1B

- PHYS 115.3 Physics and the Universe APEGS 1A

Choose **3 credit units** from the following list:

- PHYS 117.3 Physics for the Life Sciences APEGS 1B
- PHYS 125.3 Physics and Technology APEGS 1B

Choose **3 credit units** from the following list:

- BIOL 120.3 The Nature of Life APEGS 1B
- BIOL 121.3 The Diversity of Life APEGS 1B

Choose **3 credit units** from the following list:

- CMPT 140.3 Introduction to Creative Computing APEGS 1B
- CMPT 141.3 Introduction to Computer Science APEGS 1B

Senior Course Requirement (18 credit units)

Choose **3 credit units** from the following list:

- STAT 241.3 Probability Theory APEGS 1B
- STAT 245.3 Introduction to Statistical Methods APEGS 1B

Complete the following **9 credit units**:

- EVSC 220.3 Environmental Soil Science APEGS 2B
- GEOG 225.3 Hydrology of Canada APEGS 2B
- GEOG 222.3 Introduction to Geomatics APEGS 2B

Choose **3 credit units** from the following list:

- GEOG 322.3 Intro to Geographic Information Systems APEGS 2C
- GEOG 323.3 Remote Sensing APEGS 2C
- GEOG 386.3 Environmental Impact Assessment APEGS 2C

Choose **3 credit units** from the following list:

- CHEM 221.3 Analytical Chemistry I
- EVSC 210.3 Environmental Physics

C4 Major Requirement (54 credit units)

Introductory Geosciences (6 credit units)

Complete the following **6 credit units**:

- GEOL 121.3 Earth Processes
- GEOL 122.3 Earth History

Fundamental Geosciences (30 credit units)

Complete the following **30 credit units**:

- GEOL 206.3 Earth Systems APEGS 2C
- GEOL 224.3 Mineralogy APEGS 2A
- GEOL 226.3 Introductory Petrology APEGS 2C
- GEOL 229.3 Introductory Geochemistry APEGS 2B
- GEOL 245.3 Introduction to Sedimentary Environments APEGS 2A
- GEOL 258.3 Structural Geology APEGS 2A
- GEOL 308.3 Field School Sedimentary Rocks APEGS 2A
- GEOL 384.3 Introduction to Applied Geophysics OR APEGS 2B
  GEOL 334.3 Gravity, Magnetics, Electromagnetic and Radiation Methods APEGS 2B
- GEOL 413.3 Aqueous Geochemistry APEGS 2C
- GEOL 429.3 Isotope Geochemistry APEGS 2C

Environmental Geosciences (18 credit units)

Choose **6 credit units** from each of the following categories:

Geochemistry & Mineralogy

- GEOL 315.3 Geomicrobiology APEGS 2C
- GEOL 324.3 Igneous Petrology APEGS 2C
- GEOL 325.3 Metamorphic Petrology APEGS 2C
- GEOL 350.3 Organic Geochemistry APEGS 2C

Hydrogeology & Hydrology

- SLSC 322.3 Environmental Soil Physics APEGS 2C
- GEOG 328.3 Groundwater Hydrology APEGS 2C
- GEOE 375.3 Engineering Hydrogeology APEGS 2C
- GEOL 487.3 Geophysics Field Methods APEGS 2C

Environmental Chemistry

- SLSC 313.3 Environmental Soil Chemistry APEGS 2C
- CHEM 375.3 Environmental Chemistry APEGS 2C
- EVSC 421.3 Contaminated Site Management and Remediation APEGS 2C
- TOX 301.3 Environmental Toxicology APEGS 2C

C5 Electives Requirement (9 credit units)

Arts and Science courses, or those from other Colleges that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Four-year program, of which at least 66 credit units must be at the 200-level or higher.

Supporting Documentation for New Program Proposal

B.Sc. in Environmental Geoscience

Department of Geological Sciences

Lindsay, Matt

From: Wilson, Ken
Sent: July 9, 2019 8:58 AM
To: Lindsay, Matt
Cc: Butler, Samuel
Subject: Re: New Program Proposal - B.Sc. in Environmental Geoscience

Hi Matt

We discussed your proposal for the BSc in Environmental Geoscience and do not anticipate that it will impact our course delivery. The number of students expected in the program, combined with the current size of the BIOL 120/121 classes are unlikely to pose a burden on our program. Similarly, we do not offer any programming similar to your proposed BSc in Environmental Geoscience.

Good luck as you develop your program and take on your first students.
Ken

On 7/5/2019 3:23 PM, Lindsay, Matt wrote:

> Hi Ken,
>
> Thanks for your response and your willingness to review our program. We completely understand that it may take some time during summer.
>
> Have a great weekend, Matt
>
> ---
>
> **From:** Wilson, Ken <ken.wilson@usask.ca>
> **Sent:** July 4, 2019 12:21 PM
> **To:** Lindsay, Matt <matt.lindsay@usask.ca>
> **Cc:** Butler, Samuel <sam.butler@usask.ca>
> **Subject:** Re: New Program Proposal - B.Sc. in Environmental Geoscience
>
> Thanks Matt
>
> I will go over the proposal with Tracy Marchant, our Undergrad Coordinator, and get back to you soon (summer soon).
>
> I hope you have a great afternoon
> Ken
>
> On 7/4/2019 11:33 AM, Lindsay, Matt wrote:
>
> > Dear Dr. Wilson,

The Department of Geological Sciences has received approval from the Planning and Priorities Committee to propose a new B.Sc. program in Environmental Geoscience with both four-year and honours options. This program will integrate core geoscience courses with cognate courses to ensure our graduates are well rounded Environmental Geoscientists who are eligible for Professional Geoscientist (P.Geo.) registration with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS).

The impetus for our proposing this new program is twofold:

- there are substantial and growing employment opportunities for Environmental Geoscientists; and
- the B.Sc. in Environmental Earth Sciences (EES) is currently undergoing a major revision into a B.Sc. in Hydrology.

Consistent with the outgoing EES program, the incoming Hydrology program, and our own B.Sc. in Geology program, we will include the following BIOL courses in the new Environmental Geoscience program to ensure P.Geo. knowledge requirements are met:

C3 Cognate Requirement

- BIOL 120.3, The Nature of Life OR BIOL 121.3, The Diversity of Life

We are also reaching out because the Department of Biology offers the B.Sc. in Environmental Biology program. We need to ensure that our new program does not place any unreasonable demands on your existing courses and does not substantially replicate your program offerings. The proposed program start date will be September 2020 and we currently anticipate enrollment will grow to approximately 8 to 10 students in each year (i.e,. 30 to 40 total) by 2024.

I have attached a draft of the (four-year) program for your review. Please let us know if you have any questions or concerns. We are planning to submit our proposal for the September challenge (August 7 deadline) and would be happy to meet with you to discuss the program in the coming weeks. If you do not have any major concerns, we would greatly appreciate a letter of support to accompany our program proposal.

Regards, Matt

Matthew B.J. Lindsay, Ph.D.

Associate Professor
NSERC/Syncrude Industrial Research Chair
Department of Geological Sciences
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University of Saskatchewan

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ph# - 1-306-966-4400

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Dr. Kenneth Wilson
Head, Department of Biology
University of Saskatchewan
Saskatoon SK S7N 5E2
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ph# - 1-306-966-4400

Lindsay, Matt

From: Kelly, Timothy
Sent: July 25, 2019 12:49 PM
To: Lindsay, Matt
Subject: FW: New Program Proposal - Environmental Geoscience
Attachments: BSc in Environmental Geoscience (Four Year) - DRAFT 20190703.docx; ATT00001.htm

Hi Matt,

Chemistry has reviewed the proposal, and we have no real issues. In particular, we like that the proposal would allow students to complete a chemistry minor in a timely fashion.

We have one suggestion, which is to add an option for students to take CHEM 221 (Analytical Chemistry I). In many ways, this would be more rigorous than CHEM 375 and would allow students to gain experience with analytical techniques and statistical methods of analysis that may be of use in the analysis of water and soil samples.

Best regards,
Tim
UAC Chair
Department of Chemistry

From: Paige, Matthew <matthew.paige@usask.ca>
Sent: Thursday, July 4, 2019 10:54 AM
To: Kelly, Timothy <tim.kelly@usask.ca>
Subject: Fwd: New Program Proposal - Environmental Geoscience

Hi Tim,

Could I get you and UAC to follow up on this? Thanks. I'll follow up with you when I return.

Thanks,

- Matt.

Sent from my iPhone

Begin forwarded message:

> **From:** "Lindsay, Matt" <matt.lindsay@usask.ca>
> **Date:** July 4, 2019 at 12:00:35 PM EDT
> **To:** "Paige, Matthew" <matthew.paige@usask.ca>
> **Cc:** "Butler, Samuel" <sam.butler@usask.ca>
> **Subject: New Program Proposal - Environmental Geoscience**
>
> Dear Dr. Paige,
>
> The Department of Geological Sciences has received approval from the Planning and Priorities Committee to propose a new B.Sc. program in Environmental Geoscience with both four-year and honours options.

This program will integrate core geoscience courses with cognate courses to ensure our graduates are well rounded Environmental Geoscientists. Consistent with our B.Sc. in Geology program, we plan to include CHEM courses in the new program:

C3 Cognate Requirement

- CHEM 112.3, General Chemistry I (Required)
- CHEM 115.3, General Chemistry II (Required)

C4 Major Requirement

- CHEM 375.3, Environmental Chemistry (Optional)

The proposed program start date is September 2020 and we currently anticipate enrollment will grow to approximately 8 to 10 students in each year (i.e,. 30 to 40 total) by 2024. As with our current B.Sc. in Geology program, all of these students would complete both CHEM 112 and CHEM 115. Enrollment in our B.Sc. in Geology program has decreased in recent years due declining resource prices, so we do not anticipate this new program will represent an increase over historical enrollment in these CHEM courses by our students. Although we cannot predict exact numbers, our expectation is that roughly half of Environmental Geoscience students in any given year (i.e., 4 or 5) will enroll in CHEM 375. It is also worth noting that students in this new program will still have the option of completing a Chemistry minor.

I have attached a draft of the (four-year) program for your review. Please let us know if you have any questions or concerns. We are planning to submit our proposal for the September challenge (August 7 deadline) and would be happy to meet with you to discuss the program in the coming weeks.

Regards,

Matt

Matthew B.J. Lindsay, Ph.D.

Associate Professor
NSERC/Syncrude Industrial Research Chair
Department of Geological Sciences
University of Saskatchewan
114 Science Place
Saskatoon, SK, S7N 5E2, CANADA

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W: www.mbjlindsay.ca

Lindsay, Matt

From: Elshorbagy, Amin
Sent: July 9, 2019 6:15 PM
To: Lindsay, Matt
Cc: Butler, Samuel; Ferguson, Grant; Hanke, Cynthia
Subject: Re: New Program Proposal - Environmental Geoscience

Hi Matt
Thanks for sending me this information about your new program, it looks great.
I discussed this with relevant stakeholders in our department, and we see no problem accommodating what you are asking for.
You have our support.
Regards,
Amin

--
Amin Elshorbagy, Ph.D., P.Eng., P.H.
Acting Head, Department of Civil, Geological, & Environmental Engineering,
Professor of Hydrology & Water Resources Engineering,

Global Institute for Water Security (GIWS),
University of Saskatchewan,

57 Campus Drive, Saskatoon, SK S7N 5A9 CANADA
Phone: 306-966-5414 Fax: 306-966-5205
www.hydropyramids.com
Email: amin.elshorbagy@usask.ca

Associate Editor of Water Resources Research

From: Lindsay, Matt
Sent: Thursday, July 4, 2019 10:19:38 AM
To: Elshorbagy, Amin
Cc: Butler, Samuel; Ferguson, Grant
Subject: New Program Proposal - Environmental Geoscience

Dear Dr. Elshorbagy,

The Department of Geological Sciences has received approval from the Planning and Priorities Committee to propose a new B.Sc. program in Environmental Geoscience with both four-year and honours options. The impetus for our proposing this new program is twofold:

- there are substantial and growing employment opportunities for Environmental Geoscientists; and
- the B.Sc. in Environmental Earth Sciences (EES) will be revised to a B.Sc. in Hydrology.

This new program will integrate core geoscience courses with cognate courses to ensure our graduates are well rounded Environmental Geoscientists and also eligible for P.Geo. registration with APEGS. Consistent with our B.Sc. in Geology program, we plan to include GEOE 375.3 as an optional course within the C4 Major Requirement.

The proposed program start date is September 2020 and we currently anticipate enrollment will grow to around 8 to 10 students in each year (i.e,. 30 to 40 total) by 2024. Although we cannot predict exact numbers, our expectation is that roughly half of the students in any given year (i.e., 4 or 5) will opt to complete GEOE 375.3.

I have attached a draft of the (four-year) program for your review. Please let us know if you have any questions or concerns. We are planning to submit our proposal for the September challenge (August 7 deadline) and would be happy to meet with you to discuss the program in the coming weeks.

Regards,

Matt

Matthew B.J. Lindsay, Ph.D.

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Lindsay, Matt

From: Van Rees, Ken
Sent: July 15, 2019 10:15 AM
To: Lindsay, Matt
Subject: Re: New Program Proposal - Environmental Geoscience

Hi Matt

I have had a few comments from my faculty regarding your proposed new B.Sc. in Environmental Geoscience. Our one course EVSC420.3 is not likely to be taught anymore as the instructor in his Chair position has a reduced teaching load. We still plan on offering EVSC421. The addition of 4-5 students each year in the required courses EVSC210 and EVSC220 or the optional courses should not impact the delivery of these courses to any extent. Do you know when the EES program will be changed into the B.Sc. Hydrology and will the EES program then be deleted? If you have any other questions please let me know.

Regards,
Ken

Ken Van Rees, RPF
Head, Department of Soil Science
Director, Centre for Northern Agroforestry and Afforestation
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Saskatoon, Saskatchewan
Canada S7N 5A8
phone 306 966 6853
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From: "Lindsay, Matt" <matt.lindsay@usask.ca>
Date: Wednesday, July 3, 2019 at 6:48 PM
To: "Van Rees, Ken" <kcv903@mail.usask.ca>

Cc: "Butler, Samuel" <sam.butler@usask.ca>
Subject: New Program Proposal - Environmental Geoscience

Dear Dr. Van Rees,

The Department of Geological Sciences has received approval from the Planning and Priorities Committee to propose a new B.Sc. program in Environmental Geoscience with both four-year and honours options. The impetus for our proposing this new program is threefold:

i. there are substantial and growing employment opportunities for Environmental Geoscientists who are eligible for registration as Professional Geoscientists (P.Geo.);
ii. the B.Sc. in Environmental Earth Sciences (EES) is currently undergoing a major revision into a B.Sc. in Hydrology, which will have a reduced focus on geoscience topics; and
iii. we anticipate that the new program will offset enrollment declines in GEOL, SLSC, and ENSC courses associated with the major EES program revision.

Our proposed program will integrate core geoscience courses – required to meet knowledge requirements for P.Geo. registration – with cognate courses to ensure our graduates are well rounded Environmental Geoscientists. Consistent with the outgoing EES program, the incoming Hydrology program and our own B.Sc. in Geology program, we hope to include both SLSC and EVSC courses in the new Environmental Geoscience program:

C3 Cognate Requirement
- EVSC 210.3, Environmental Physics (Required)
- EVSC 220.3, Environmental Soil Science (Required)

C4 Major Requirement
- SLSC 322.3, Environmental Soil Physics (Optional)
- SLSC 313.3, Environmental Soil Chemistry (Optional)
- EVSC 420.3, Environmental Fate and Transport of Toxic Substances (Optional)
- EVSC 421.3, Contaminated Site Management and Remediation (Optional)

The proposed program start date is September 2020 and we currently anticipate enrollment will grow to approximately 8 to 10 students in each year (i.e,. 30 to 40 total) by 2024. Although we cannot predict an exact number of students electing to take the optional SLSC and EVSC courses, our expectation is roughly half of students in any given year (i.e., 4 or 5) will take these courses. In fact, our reasoning for including the four optional C4 SLSC and EVSC courses was to provide students with additional flexibility and to limit enrollment increases in individual courses.

I have attached a draft of the (four-year) program for your review. We are planning to submit our proposal for the September challenge (August 7 deadline) and would be happy to meet with you to discuss the program in the coming weeks.

Regards, Matt

Matthew B.J. Lindsay, Ph.D.

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Lindsay, Matt

From: Liber, Karsten
Sent: July 5, 2019 2:30 PM
To: Lindsay, Matt
Cc: Butler, Samuel; Martin, Jennifer
Subject: RE: New Program Proposal - B.Sc. in Environmental Geoscience

Hello Matt.

Thank you for touching base on this. I have no significant concerns with your proposed program. It is an undergraduate program so very little of SENS' activities come into play here. The courses related to the Sustainability Certificate are the only ones. It would likely be good to recommend one of those courses as an option within the Breadth Requirement, if that is allowed (e.g., ENVS 201.3 – Foundations of Sustainability). I also think some of the courses in environmental toxicology and similar would have value, but I can appreciate that you have little flexibility in these matters.

In short, I have no concerns with your submission of the proposed program and I wish you success with your efforts. Hopefully, this message will suffice as a letter of support. If it doesn't, please let me know and we will prepare something more formal.

Sincerely,

Karsten Liber

Karsten Liber, Ph.D.
Executive Director (Interim) and Distinguished Professor
School of Environment and Sustainability
University of Saskatchewan
117 Science Place, Saskatoon, SK S7N 5C8, Canada
Tel: (306) 966-8431 (general); (306) 966-1499 (direct)
E-mail: karsten.liber@usask.ca
Internet: http://www.usask.ca/toxicology/

From: Lindsay, Matt <matt.lindsay@usask.ca>
Sent: Thursday, July 4, 2019 11:14 AM
To: Liber, Karsten <karsten.liber@usask.ca>
Cc: Butler, Samuel <sam.butler@usask.ca>; Martin, Jennifer <jennifer.martin@usask.ca>; Eccleston, Andrea <andrea.eccleston@usask.ca>
Subject: New Program Proposal - B.Sc. in Environmental Geoscience

Dear Dr. Liber,

I am contacting you in your roles as both Director of the Toxicology Centre and Interim Executive Director of SENS.

The Department of Geological Sciences has received approval from the Planning and Priorities Committee to propose a new B.Sc. program in Environmental Geoscience with both four-year and honours options. This program will integrate core geoscience courses with cognate courses to ensure our graduates are well rounded Environmental Geoscientists

who are eligible for Professional Geoscientist (P.Geo.) registration with the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS).

The impetus for our proposing this new program is twofold:

- there are substantial and growing employment opportunities for Environmental Geoscientists; and
- the B.Sc. in Environmental Earth Sciences (EES) is currently undergoing a major revision into a B.Sc. in Hydrology.

There are substantial constraints on the course offerings within this new program because it must meet P.Geo. knowledge requirements. Consequently, due to issues with prerequisites (e.g. we can only require BIOL 120.3 or BIOL 121.3, not both) the program does not currently include any TOX courses. Additionally, these constraints mean that our students would not be able to complete the full 21 credit units required to complete the Certificate in Sustainability offered by SENS. However, we do anticipate that graduates of our program may have interest in pursuing graduate programs through SENS and, potentially, Toxicology.

I have attached a draft of the (four-year) program for your review. Please let us know if you have any questions or concerns. We are planning to submit our proposal for the September challenge (August 7 deadline) and would be happy to meet with you to discuss the program in the coming weeks. If you do not have any major concerns, we would greatly appreciate a letter of support to accompany our program proposal.

Regards, Matt

Matthew B.J. Lindsay, Ph.D.

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Lindsay, Matt

From: Aitken, Alec
Sent: August 2, 2019 12:24 PM
To: Lindsay, Matt; Butler, Samuel; Dahl, Alexis
Cc: Chutko, Krystopher; Noble, Bram; Prokopiuk, Tim
Subject: Re: Proposal - Environmental Geoscience Program

Good morning Matt,

I have reviewed the program proposals and note that this new program will provide another path to professional geoscientist registration in the Province of Saskatchewan; this is commendable. The new programs are developed around foundational geosciences courses and complementary environmental geosciences (i.e., chemistry, geomatics, hydrology, soil science, toxicology). I appreciate the inclusion of 12 credit units of GEOG courses in both of the proposed programs, and the option for students to include an additional 3 credit units of GEOG. The inclusion of a course in environmental impact assessment (GEOG 386.3) is relevant to the training of potential environmental geosciences practitioners (e.g., mine site remediation). The programs also allow students majoring in Geology to pursue the Minor in Water Science or the Minor in Geomatics offered by the Department of Geography and Planning. The department has the capacity to serve Geology students who choose these program options.

On behalf of the Department of Geography and Planning, I offer my support for the B.Sc. 4-year and Honours programs in Environmental Geosciences.

Sincerely,

Alec Aitken, Ph.D., P. Geo.
Professor and Head
Department of Geography and Planning
117 Science Place
University of Saskatchewan
Saskatoon, Saskatchewan, Canada S7N 5C8
Telephone: (306) 966-5672/5654
E-mail: alec.aitken@usask.ca

From: Lindsay, Matt <matt.lindsay@usask.ca>
Sent: August 1, 2019 2:57 PM
To: Aitken, Alec <alec.aitken@usask.ca>; Butler, Samuel <sam.butler@usask.ca>
Cc: Chutko, Krystopher <krys.chutko@usask.ca>; Noble, Bram <b.noble@usask.ca>; Prokopiuk, Tim <tim.prokopiuk@usask.ca>
Subject: RE: Proposal - Environmental Geoscience Program

Hello Alec,

I have attached the proposal we will submit next week to the College. I have attached the programs as separate documents because Alexis has offered to enter these into the system for us.

We would greatly appreciate a letter of support if the department remains supportive.

Regards, Matt

--
Matthew B. J. Lindsay, Ph.D.
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From: Lindsay, Matt <matt.lindsay@usask.ca>
Sent: July 4, 2019 8:25 AM
To: Aitken, Alec <alec.aitken@usask.ca>; Butler, Samuel <sam.butler@usask.ca>
Cc: Chutko, Krystopher <krys.chutko@usask.ca>; Noble, Bram <b.noble@usask.ca>; Prokopiuk, Tim <tim.prokopiuk@usask.ca>
Subject: Re: Proposal - Environmental Geoscience Program

Thanks Alec,

We have structured the new program such that all graduates – without exception – will meet APEGS knowledge requirements for the Environmental Geoscience stream. We have consulted Kate MacLachan during program development and APGES will also be providing a letter of support for the new program.

We appreciate the willingness to waive the GEOG 280 prerequisite for GEOG 386, which I agree will be of value to students in the new program.

I hope to forward you the full proposal, which has already received approval from the Planning and Priorities Committee, in the coming weeks. We are targeting the September challenge, which has a proposal deadline of August 7.

Regards, Matt

Matthew B.J. Lindsay, Ph.D.

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Environmental Geochemistry · University of Saskatchewan

www.mbjlindsay.ca

Welcome The Environmental Geochemistry Group at the University of Saskatchewan is led by Dr. Matthew Lindsay, who is an Associate Professor in the Department of Geological Sciences and the NSERC/Syncrude Industrial Research Chair in Mine Closure Geochemistry.Our research is focused on understanding biogeochemical controls on water quality within geohydrologic systems.

From: "Aitken, Alec" <alec.aitken@usask.ca>
Date: Thursday, July 4, 2019 at 8:12 AM
To: "Lindsay, Matt" <matt.lindsay@usask.ca>, Samuel Butler <sam.butler@usask.ca>
Cc: "Chutko, Krystopher" <krys.chutko@usask.ca>, "Noble, Bram" <b.noble@usask.ca>, "Prokopiuk, Tim" <tim.prokopiuk@usask.ca>
Subject: Re: Proposal - Environmental Geoscience Program

Good morning Matt and Sam,

Glad to write a letter in support of the new Environmental Geosciences program. As indicated in your correspondence with Bram Noble, I will await the delivery of the full proposal before composing a letter of support. I trust that it is in your department's best interests to ensure that this new program will meet APEGS knowledge standards for professional registration in Geology or Environmental Geosciences. It will assist me in composing a letter of support if your proposal outlines how the program curricula map to the APEGS knowledge standards. Thank you for your consideration in this matter

I have no concerns about waiving the GEOG 280 pre-requisite for GEOG 386 for GEOL Majors wishing to enrol in this course. I believe these students will be well-served by their participation in GEOG 386. Regrettably, the course registration system will require these students to submit a pre-requisite waiver form to my department in order to facilitate their registration in the course.

All the best,

Alec Aitken
Professor and Head
Department of Geography and Planning

From: Noble, Bram
Sent: July 4, 2019 12:57 AM
To: Lindsay, Matt
Cc: Butler, Samuel; Aitken, Alec; Chutko, Krystopher
Subject: RE: Proposal - Environmental Geoscience Program

Hi Matt

I'm copying Alec on this, who is the new department head in geography as of July 1.

Alec – just some background here, and Krys can fill you in on the details:

i) Krys and I met with Sam a few months back and indicated our strong support for this program. Several of our courses are included, and we indicated that the Department would provide a letter of support for the program.
ii) Waiving the GEOG 280 pre-requisite for students in their 3rd yr to take GEOG 386 is not a problem. We do it fairly regularly for students in the Toxicology program.

Bram

From: Lindsay, Matt <matt.lindsay@usask.ca>
Sent: July 3, 2019 3:47 PM
To: Noble, Bram <b.noble@usask.ca>; Chutko, Krystopher <krys.chutko@usask.ca>
Cc: Butler, Samuel <sam.butler@usask.ca>
Subject: Proposal - Environmental Geoscience Program

Bram and Krys,

Thank you again for meeting with us to discuss this program proposal. We have received positive feedback from the Planning and Priorities Committee and are currently preparing a full proposal for submission to the College.

I have two questions for you at this time:

i. Are you still willing to provide a letter in support of our proposed program? We would of course provide you with a copy of the full program proposal before you draft your letter.
ii. Our UG Advisor, Tim Prokopiuk, noted that we currently list GEOG 386 as an optional course within our C4 Major Requirement, but that we do not list GEOG 280 anywhere in the program. Since GEOG 280 is a pre-requisite for GEOG 386 or permission of the instructor, I am wondering your thoughts on this. There would be room for students to complete GEOG 280 as an elective, but it would be difficult to fit it in as an optional C3 Cognate Requirement. I suppose I am asking if it would be possible for our students (likely not that many) to receive permission to waive the pre-requisite. If not we will revisit before finalizing the proposed program.

I have attached an updated and (nearly) final version of our proposed 4-year BSc program to review.

Again, we greatly appreciate your input on a support of this program.

Regards, Matt

Matthew B.J. Lindsay, Ph.D.

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Environmental Geochemistry · University of Saskatchewan

www.mbjlindsay.ca

Welcome The Environmental Geochemistry Group at the University of Saskatchewan is led by Dr. Matthew Lindsay, who is an Associate Professor in the Department of Geological Sciences and the NSERC/Syncrude Industrial Research Chair in Mine Closure Geochemistry.Our research is focused on understanding biogeochemical controls on water quality within geohydrologic systems.

A P E G S

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& Geoscientists of Saskatchewan

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July 10, 2019

Sam Butler, Ph.D.
Professor and Head
Department of Geological Sciences
University of Saskatchewan

Dear: Dr. Butler

Thank you very much for consulting with APEGS about the Environmental Geoscience program that you are proposing in the Department of Geological Sciences.

We support your plan to develop this program and agree that it's crucial that all graduates will meet the academic requirement for licensure in the environmental geoscience stream.

As outlined, the program should meet the current academic requirements for licensure as a geoscientist-in-training. Once the program has been finalized and approved, we will work with you to ensure that courses to fulfill your program requirements are approved as appropriate, by APEGS Academic Review Committee to meet the academic requirements for licensure.

We look forward to ongoing collaboration with you and hope that students at University of Saskatchewan will soon have the opportunity to take this program.

Sincerely,

Kate MacLachlan, Ph.D., P.Geo.
Director of Academic Review

AGENDA ITEM NO: 10.5

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

REPORT FOR INFORMATION

PRESENTED BY: Susan Detmer; chair, academic programs committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Engineering Co-op Internship Program**

COUNCIL ACTION: **For Information Only**

SUMMARY:
At its October 24, 2019 meeting, the academic programs committee approved the following motion:

- ***That the Academic Programs Committee approve the Engineering Cooperation Internship Program as a concentration in the College of Engineering, effective May 2020.***

This new internship program increases the flexibility of the internship options within the College of Engineering's B.Sc. in Engineering program and ensures dedicated pre- and post-work placement curriculum content and support services for students on internship.

In contrast to the existing internship program, which is taken by students following their third year of study for eight, twelve, or sixteen months, this new program offers work placement opportunities at a variety of points in the program and is better integrated with the student's academic program.

As this new "Co-op Internship" is proposed as an academic concentration, students will be enrolled in coop internship courses, will complete assignments and the internship will appear on their transcripts. Students will continue to be enrolled in their academic program throughout their internship. This contrasts with the current model, which sees students moved from their academic program to the internship program and then back to the academic program at the completion of their work placement.

As this is an academic concentration, it was approved at the Academic Programs Committee (APC). The committee was pleased with the flexibility of the new internship options and how they will respond to industry needs now and going forward.

The existing Engineering Professional Internship Program (EPIP) will stop admitting students effective May 2020, but faculty in the College of Engineering were not prepared to bring forward a request for deletion while students were still enrolled. A proposal for the deletion of the EPIP will be submitted to APC at a later date. University Council will be required for the deletion, as it is considered a separate program from the B.Sc. in Engineering programs.

ATTACHMENTS:

1. Engineering Co-op Internship Program Proposal

UNIVERSITY OF SASKATCHEWAN
College of Engineering
ENGINEERING.USASK.CA

Engineering Co-op Internship Program Proposal

Prepared by:

Kristen Cutting
Co-op and Career Coordinator
College of Engineering

Executive Summary

The College of Engineering's current Professional Internship Program provides third year undergraduate students with the opportunity to take on a work placement of eight, twelve or sixteen months. Through this work placement, students put the theory and skills gained over the course of their education into practice, under the supervision of a Professional Engineer.

With the expansion of work-integrated learning as a priority for the University of Saskatchewan and for post-secondary institutions across Canada, it is crucial that the College of Engineering have comprehensive work-integrated learning programming in place to provide students with a flexible, high quality, value-added enhancement to their degree. This will, in turn, enhance overall student learning, support students in making a successful transition to a professional career, and improve the attractiveness of the College of Engineering programs relative to others in the Canadian context.

The College of Engineering proposes the creation of a new Co-op Internship option to replace the Professional Internship Program. This option is proposed for implementation in May 2020. The Co-op Internship option would see increased flexibility in terms of student enrolment; dedicated pre- and post-work placement curriculum content and support services for students; and would be more responsive to industry's recruitment needs.

Students are increasingly seeking out degree programs that include a work-integrated learning component. By offering a Co-op Internship option that includes multiple work placement term lengths and encourages students to take on a work placement earlier in their degree program, the College of Engineering will be strategically positioned to attract prospective students and will see students graduate with a well-developed technical and essential skill set as they begin their careers.

Further to this, the Co-op Internship option will foster strategic partnerships between the College of Engineering and industry. Partnership discussions beginning with interest from industry to hire a student for a short-term work placement have the potential to evolve into an ongoing relationship related to research interests and increased engagement with faculty.

This College of Engineering is requesting approval for the following curricular changes:

Motion: to stop admitting students to the Engineering Professional Internship Program, effective 2020-05.

Official termination of EPIP program will be forthcoming in a separate proposal.

Motion: to create an engineering "Co-op Internship" concentration for the civil engineering, chemical engineering, computer engineering, electrical engineering, environmental engineering, engineering physics, geological engineering and mechanical engineering undergraduate programs, effective 2020-05.

Motion: to create six new courses (ECIP 200, ECIP 400, ECIP 401, ECIP 402, ECIP 403, ECIP 404), effective 2020-05.

Motion: to delete four existing courses (EPIP 401, EPIP 402, EPIP 403, EPIP 404), effective 2022-07.

Proposal

The College of Engineering proposes to create a Co-op Internship Program featuring four, eight, twelve and sixteen month work placement options, open to undergraduate students who have completed at least two years of their Bachelor of Science in Engineering degree program at commencement of their first work placement. This optional enhancement to a student's degree will provide them with the opportunity to gain up to twenty months of work experience in an engineering work environment prior to completion of their degree. While this optional enhancement is considered a concentration, it will be branded to students using the term "program". Students who complete a minimum of twelve months of work experience within the Co-op Internship Program would graduate with "Co-op Internship" on their parchment. As this is an academic concentration, students will be enrolled in co-op internship courses; complete assignments (graded as pass/fail); with courses appearing on their transcript.

This proposal includes details on objectives, enrolment requirements and overall assessment; an environmental scan of work-integrated learning programs for engineering students across other post-secondary institutions; and associated budget.

Academic Justification

Background

The Engineering Professional Internship Program was approved by University Council in 1996 for implementation on January 1, 1997. The internship program had been in operation since 1990 and was administered jointly between the College of Engineering and the Student Employment and Career Centre. At that time, an "internship" was defined as an extended period of employment in a professional setting which saw students taking on eight, twelve and sixteen month work placement terms. The rationale behind the longer-term length, as opposed to shorter "co-op" terms, was that it took an extended amount of time for students to become productive in their work.

The internship program was created in response to industry's recruitment needs with nine students placed with IBM Canada in the 1990-1991 academic year. Undergraduate students, most of whom had completed their third year of studies towards their degree program, were deemed eligible to participate in the program.

Over the years, the program continued to operate as a partnership between the College of Engineering and the Student Employment and Career Centre, until recently, when the College of Engineering hired a Co-op and Career Coordinator to develop a new co-op program. The internship program has grown significantly over the years with 2018 being its most successful year, seeing 130 students placed across Canada. The original program proposal's goal was to reach 100 placements. Historical placement statistics are found in Appendix 1.

Motivation

Work-integrated learning has come to the forefront as a priority area for many post-secondary institutions, including the University of Saskatchewan. Given the shifts in student demographics and recruitment processes

since the internship program began, this is an opportune time to re-examine the needs of today's students as they relate to career development and the employment supports provided to assist in the transition to professional careers. Further to this, it is time to re-examine the recruitment needs and processes of industry seeking prospective employees for their talent pipeline.

While the Engineering Professional Internship Program has been very successful, particularly in recent years, there are elements of the program that are dated and no longer meet the needs of the stakeholder groups involved.

Further to this, there is an opportunity to educate stakeholder groups on the definitions of "co-op" and "internship" in addition to demonstrating and adhering to the essential elements of co-operative education.

Target Audience

Promotion of the Engineering Co-op Internship Program will occur with prospective students to the College of Engineering and will continue with first year undergraduate students. The goal in engaging with students early on when they are planning for their post-secondary education and upon commencement of a degree program, is to demonstrate the value of considering work-integrated learning as a complement to their degree that will enhance career planning and development as young professionals.

From an enrolment perspective, the Engineering Co-op Internship Program proposes to target undergraduate students currently in their second year of studies towards a Bachelor of Science in Engineering degree program. By engaging students early in their second year, there will be ample time to deliver pre-work placement curriculum content designed to prepare them for a possible work placement following completion of their second year of studies. Communicating the importance of early access to, and engagement with, career development and employment programming is important as it provides students with an avenue to begin their professional career development in a supported and structured way. Faculty also benefit from work-integrated learning programs as students returning from work placements are often more engaged and better understand the application of theory learned in the classroom to professional settings and workplaces.

Although this proposal focuses on undergraduate students, it should be noted that a future survey of industry is recommended to determine demand for work-integrated learning programs targeting graduate students. Preliminary survey results from December 2018 indicate a small appetite from industry for graduate student work placements. It is recommended that once targets and goals for the Co-op Internship Program have been reached at the undergraduate level, further exploration be done with graduate programs.

Anticipated Demand

A survey of all undergraduate and graduate students within the College of Engineering was conducted in December 2018 to gain insight into students' understanding of and interest in engaging in co-op and internship programs and their overall needs with respect to career development and support services. A total of two hundred and twenty three students responded to the survey (98% identifying as undergraduate), which represents approximately eleven percent of the total student population within the College of Engineering.

Results from the survey indicated that overall, students are unaware of the difference between co-operative education and internships, however 79% rated completing a work placement as part of their degree program as either very or extremely important. While co-operative education and internships both fall within the definition of work-integrated learning, co-operative education may follow an alternating model whereby work terms are interspersed between academic terms. An internship is usually one longer-term placement with only one employer.

Eighty-nine percent of students responded that they would take on a work placement opportunity even if it meant extending the time it took them to complete their degree. Eighty six percent of students indicated that it was important for them to have "co-op" or "internship" on their parchment at graduation.

Students reported interest in all work term lengths proposed for the Co-op Internship Program (four, eight, twelve and sixteen months), though the majority were interested in longer-term placements. In addition, 53% were interested in completing multiple work term placements as part of their degree.

Based on the results of this student survey, it is evident that there is sufficient student demand for a Co-op Internship Program within the undergraduate student body at the College of Engineering.

Over the same timeframe, a survey was conducted with employers (most of whom were actively engaged in the Engineering Professional Internship Program) to gain insight into their satisfaction with the current program as well as to gather feedback on their recruitment needs. A total of forty-six employers responded to the survey, 80% of whom had hired through the internship program in the past.

Seventy two percent of respondents reported satisfaction with the current internship program. Respondents reported high satisfaction levels with the program recruitment timelines, job posting process, and overall quality of student applications. Some segments of industry typically express some level of dissatisfaction with the structured rank and offer process used by the Engineering Professional Internship Program to facilitate matches between students and employers. As such, it was not surprising to see mixed results when asked about satisfaction with this process. This structured way of managing the recruitment process works well for smaller employers who have a hard time competing with larger companies for students. In addition, the structured offer process benefits students as it provides them with the opportunity to consider all offers at once prior to making an acceptance decision. The downside to using a structured recruitment process is that it does not accurately represent real-world hiring practices and timelines.

Fifty seven percent of respondents noted that they were usually able to recruit the number of interns they had hoped for from the College of Engineering and those who recruited interns reported high levels of satisfaction with the quality of the interns and their preparedness for the workplace. Interestingly, many employers were unable, as students were, to distinguish between co-operative education and internships.

When asked about interest in hiring students for four month summer terms, forty-nine percent agreed or strongly agreed that they would be interested in this term length option.

Overall, employers indicated greater interest in hiring undergraduate students for co-op or internship placements, however 33% of respondents also noted an interest in hiring graduate students for these types of work placements.

Based on industry response to this survey, in addition to reviewing employer engagement in the recruitment process for 2018-2019 interns, it is evident that there is a continued need for a work-integrated learning program within the College of Engineering. A summary of both student and employer surveys is found in Appendix 2.

Projected Enrolment

Following the review of recent student survey data as well as analysis of historical application and subsequent enrolment data for the Engineering Professional Internship Program, it is anticipated that seventy percent of students who meet the eligibility criteria for the program will apply to participate in the Engineering Co-op Internship Program. Historical application and enrolment data is found in Appendix 3.

One of the key differences between the Professional Internship Program and the proposed Co-op Internship Program is the shift to target both second and third year students for the program. The goal is to engage students early on in their education so that they have opportunities to participate in multiple work placements prior to graduation. Refer to Appendix 4 for a flow diagram outlining potential student participation.

Benefit and Strategic Alignment

The implementation of an Engineering Co-op Internship Program benefits both internal and external stakeholders including students, staff, faculty and industry.

The College of Engineering's Cultivating Innovation 2018-2025 Strategic Plan has identified Teaching and Learning as a strategic pillar. There are several aspirations within this pillar, one of which is to "*Provide meaningful work-integrated and experiential learning opportunities for all students, positioning them for success in their careers*" and a commitment to "*Build an accredited engineering co-operative education program that connects students with opportunities in industry, government and our community*." The College of Engineering will position itself as a top choice for post-secondary education among prospective students seeking out degree programs that provide opportunities to engage in meaningful and relevant work-integrated learning. Furthermore, this program aligns with the University Plan 2025 goal to "*Unleash Discovery*" which focuses on attracting the best students. Establishing an Engineering Co-op Internship Program is a key tactic in realizing the College's strategic enrolment management plan.

By offering a revitalized Engineering Co-op Internship Program, the College of Engineering supports the *Courageous Curiosity* commitment within the University Plan 2025, and more specifically the goal to seek solutions. Work-integrated learning programs provide "*New and enhanced applied learning experiences for students*".

Further to this, work-integrated learning focuses on the partnership between the student, the employer/industry and the institution. Student positions within organizations represent an opportunity to capitalize on new ideas, innovation and creativity. These ideas support the University of Saskatchewan's "*Embolden Partnerships*" goal as the success of work-integrated learning programs relies solely on partnership development and maintenance of relationships. There is opportunity for synergies and partnerships between the College of Engineering's current Indigenous Peoples Industry Partnership Program (IPIPP) and the Co-op Internship Program.

Significant benefits for students stem from the creation and implementation of a Co-op and Internship Preparation course as part of the Engineering Co-op Internship Program. By way of this course, the College of Engineering will demonstrate a commitment to preparing its students for professional careers with continued support once students have secured work placements. Undergraduate students on a work placement will benefit from a career development standpoint as they begin to enhance their understanding of the type of career that might be a fit for them following graduation. In addition, they will benefit from engineering-specific work experience added to their resume to improve their overall marketability to prospective employers.

The Engineering Co-op Internship Program also aligns itself with the five learning pursuits outlined in the University of Saskatchewan Learning Charter. Through engagement in this program, students will be encouraged to take ownership of their learning and career development. While support services will be provided to assist students through the job search process, it is ultimately up to the student to take the knowledge that is transmitted to them and actively apply it to be successful in securing a work placement. The opportunity to put knowledge and theory into practice in a professional setting marks an important early step for these students to develop their self-identity and to understand what it means to be an engineer. This is particularly important for students from marginalized groups. The Student Commitments as outlined in the Learning Charter will be shared with students as expectations while they are out on work placement, serving not only as representatives of the College of Engineering, but the University of Saskatchewan overall.

Finally, employers and industry partners will benefit from this program as it will serve as a key recruitment segment of their talent pipeline. By hiring a co-op student or intern, employers are able to acquire the human resources they need to complete specialized projects. Shorter-term employment also serves as a method to test whether an individual would be a good fit for future full-time, permanent employment.

Environmental Scan

Co-operative education and work-integrated learning (CEWIL) Canada, is a national organization that leads work-integrated learning across the country. Work-integrated learning (WIL) encompasses many forms; two of which include co-operative education and internship. CEWIL defines co-op internship as "several co-op work terms back-to-back…the time spent in work terms must be at least 30% of the time spent in academic study for programs over 2 years in length." (WIL Definitions CEWIL Canada, 2019)

Most universities across Canada now offer work-integrated learning programs. An environmental scan of several institutions with work-integrated learning programs for engineering students was conducted using internet

search engines. Comparable institutions to the University of Saskatchewan include the University of Regina, University of Alberta, University of Calgary, University of British Columbia, University of Victoria, University of Manitoba, University of Waterloo, Western University, and McMaster University. Details on work-integrated learning programs for engineering students attending the aforementioned institutions are found in Appendix 5.

Within Saskatchewan, the University of Regina offers both co-operative education and internship programs for its undergraduate students in engineering. Their Co-operative Education Program follows an alternating model, which intersperses academic terms with work placement terms, allowing students to complete multiple four month work terms as part of their degree program. Through participation in this program, students complete a total of sixteen months of work experience. In addition to their co-operative education program, an internship option is available to students wishing to take on one longer work term placement of twelve or sixteen months.

The proposed Engineering Co-op Internship Program does not differ at a foundational level from other work-integrated learning programs across the country, but rather has been developed based upon best practices outlined for work-integrated learning programs through CEWIL Canada and successful elements of the current Engineering Professional Internship Program. The proposed program endeavors to provide its key stakeholders with greater flexibility to participate. This will be achieved through the inclusion of four, eight, twelve and sixteen month work terms with start dates in January, May and September; early student recruitment to the program; and dedicated curriculum to prepare students for a work placement. A commitment to the reflective learning process as well as regular communication between all parties involved in work placements creates an enriched learning experience for the student.

This proposal is to adopt a co-op internship model whereby students are supported and encouraged to take on more than one work term placement, potentially engaging with multiple companies, prior to completing their degree. The program will not follow the alternating co-operative education model as engineering classes are not offered during the spring and summer months. Within the co-op internship model, students have the option to take on a four month work placement following completion of their second year of studies; return to complete either half or all of their third year; take on another work placement of between four and sixteen months; and return to complete their final year of studies. This model allows for up to twenty months of work experience to be completed with minimal disruption to a student's academic studies. In most cases, this will extend a student's degree by one year. In consultation with an academic advisor, a sequence of academic study and work terms can be determined so that students are able to achieve their career development goals and objectives.

The rationale for proposing a co-op internship model is that students are able to take on work placements with more than one employer (a feature not currently offered by the Engineering Professional Internship Program), and by offering multiple term lengths, students can customize their pre-graduation work experience.

Program Overview

The Engineering Co-op Internship Program is designed to support the early career development of undergraduate students. Admission to this program does not guarantee a work placement, however pre-work

placement curriculum and support services are an integral component to student success. Students will be encouraged to take ownership of their career development through a structured and supported process.

Admissions

Admission Qualifications and Criteria

Undergraduate students interested in the program will be required to apply through submission of an online application form, letter of intent and resume. Applications will be reviewed by the College of Engineering Co-op and Internship Program staff and approval for participation in the program will be assessed based on the following criteria:

- At the time of application, a student must be enrolled in at least the second year of their Bachelor of Science in Engineering program
- At the time of first work placement, a student must have completed at least two years of their Bachelor of Science in Engineering program
- Have attained a 65% sessional weighted average in the most recent academic year
- Must return to a minimum of twelve (12) credit units following final work placement; these credit units must be specific towards Bachelor of Science in Engineering degree requirements
- Must not be on faculty action prior to beginning a work placement and must not receive a faculty action while on a work placement
- Registration in a capstone design course disqualifies a student's eligibility for a January start date

Once admitted, students will be required to enroll in a Co-op Internship Preparation Course (labelled ECIP 200.1). Details related to this course will be discussed in a later section of this document.

It is strongly recommended that students apply for admission to the Engineering Co-op Internship Program in term one of their second year of studies. Intake during this timeframe will allow ample time for admitted students to complete the Co-op Internship Preparation Course and to participate in the recruitment process with the possibility of securing a work term for the spring/summer following completion of their second year of studies.

It is proposed that intake also occur in term one for students in their third year of studies. This intake will capture students who do not wish to pursue a short-term work placement following the completion of their second year of studies.

Study and Work Sequence Options

Taking into account the diverse student body enrolled in the College of Engineering, the Engineering Co-op Internship Program focuses on flexibility by offering several sequencing options to support students. Students admitted to the program will be strongly encouraged to meet with an academic advisor to plan their schedules accordingly thus ensuring they are able to complete their degree within a timely manner.

Co-op work placements may begin in May for a four-month term length. Internship work placements may begin in January, May or September, with term lengths of eight, twelve and sixteen months. Work terms must be paid and encompass full-time hours. Based on academic schedules and historical placement data from the Engineering Professional Internship Program, most students will likely prefer a May start work placement.

Below are several possible sequence options for students wishing to pursue a work placement beginning in May. Study terms are denoted by a green backpack while work terms are denoted by a yellow hardhat. The options shaded in pink indicate that "Co-op Internship" would appear on a student's parchment should they successfully complete and pass all work terms listed within the sequence.

4 Month Options	**2nd Year**			**3rd Year**			**4th Year**			**5th Year**		
	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer
Option 1						Free						
Option 2			Free						Free			

8 Month Options	**2nd Year**			**3rd Year**			**4th Year**			**5th Year**		
	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer
Option 1												
Option 2			Free						Free			

12 Month Options	**2nd Year**			**3rd Year**			**4th Year**			**5th Year**		
	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer
Option 1			Free						Free			

Option 2												

16 & 20 Month Options	2nd Year			3rd Year			4th Year			5th Year		
	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer	Fall	Winter	Spring/ Summer
Option 1			Free									
Option 2									Free			
Option 3												

Transcript Notation and Parchment Recognition

In order to graduate with "Co-op Internship" listed on their parchment, students will be required to complete a minimum of twelve months of work experience through the Co-op Internship Program. Students with less than twelve months of experience through this program will receive notation of completion of co-op internship courses on their transcript provided a grade of "pass" is received for the required courses.

All students who take on work placements will be required to return to the College of Engineering following their final work placement with a minimum of twelve credit units remaining in their degree program.

Assessment of Transfer Credit for Work Placements

Students who have completed work placements from other post-secondary institutions may request that their work placements be reviewed and assessed by the Co-op and Career Coordinator for consideration towards the requirements to receive "Co-op Internship" on their parchment. Assessments will be done on a case-by-case basis and work placements will be reviewed against the criteria associated with the Engineering Co-op Internship Program.

Program Requirements

When a placement is secured, a student is required to pay tuition fees and associated off-campus student fees and complete co-op internship courses, each one four months in length. Students will retain their full-time student status while on a work placement. The number of courses required will vary based on the work

placement term length (four, eight, twelve or sixteen months). The zero credit courses are graded as pass/fail by program staff as follows:

- ECIP 200.1 (required for all students prior to beginning a work placement)
- ECIP 400.0
- ECIP 401.0
- ECIP 402.0
- ECIP 403.0
- ECIP 404.0

Overall Program Objectives

The Engineering Co-op Internship Program includes specific objectives for each stakeholder group involved. Fundamentally, the Engineering Co-op Internship Program will demonstrate that work-integrated learning goes beyond the work placement itself. By committing to this program, the College of Engineering is facilitating collaborative partnerships, demonstrating a commitment to continuous learning and creating programming that benefits all stakeholder groups.

Due to the professional nature of the engineering profession, and the associated level of standards and expectations, this program is designed to prepare students for entry into professional workplaces. Based on historical data, it is expected that most students on work placement will receive direct supervision or mentorship from someone with a Professional Engineer (P.Eng) designation. It is proposed that the Engineering Co-op Internship Program also accept work placements that provide students with the opportunity to apply their engineering knowledge and skills even when supervision is not provided by a registered Professional Engineer.

In most cases, students will be able to apply the pre-graduation work experience acquired through the Engineering Co-op Internship Program towards their Engineer-in-Training designation through the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) or other governing bodies throughout Canada. Students taking on a placement without P.Eng supervision or mentorship may not be eligible to apply this pre-graduation work experience towards professional designation. It will be made explicitly clear to students that the College of Engineering is not able to guarantee that the experience gained through work placements will count as experience toward their Engineer-in-Training designation.

Objectives for Students Admitted to Co-op Internship Program

The program is structured in a way to facilitate early student reflection on short and long-term career aspirations, with opportunities for reflective learning embedded in the Co-op Internship Preparation Course as well as within the work placement experience.

Students admitted to the Engineering Co-op Internship Program will be required to complete the Co-op Internship Preparation Course including the following in-person, pre-work placement preparation sessions:

- Introduction to Co-op Internship
- Career Development and Reflective Learning
- Writing Effective Cover Letters and Resumes
- The Job Search Process, Networking and LinkedIn
- Ace the Interview
- Co-op Internship Outgoing Orientation Session (required for placed students only)

Each of the above-mentioned sessions has associated learning outcomes and is designed to provide students with timely and relevant information to support them throughout the co-op internship job search process. Refer to Appendix 6 for Co-op Internship Preparation Course learning outcomes by session.

Through participation in the Engineering Co-op Internship Program Preparation Course, students will:

1. Begin the reflective process to articulate their career and employment goals.
2. Understand the co-op internship recruitment process and be prepared to participate in all steps of recruitment.
3. Be prepared to take on a work placement where they will put their engineering knowledge and skills into practice in a professional setting.

Objectives for Co-op/Intern Students on Placement and Returning from Placements

Through participation in an Engineering Co-op Internship program work placement, students will:

1. Apply the theoretical knowledge acquired during their undergraduate studies in a practical and challenging workplace environment.
2. Develop and articulate learning goals for themselves during their work placement.
3. Engage in reflective conversations related to their defined learning goals and solicit feedback from their workplace supervisor on their performance and learning.
4. Participate in and learn from the feedback discussed with their employer as part of the interim and final evaluation of their performance while on work placement.
5. For Co-op and Intern Students (all placement term lengths): Complete a written reflection assignment and receive feedback from program staff.

6. For Intern Students (eight, twelve and sixteen month placement length): Complete a written, technical work experience report and receive feedback from program staff.
7. Engage in post-work experience reflective discussions and receive support in their re-integration to the College of Engineering.

Within the first couple of weeks of a work placement, co-op students/interns will be expected to have a conversation with their workplace supervisor to outline learning goals for their work placement. It is recommended that between four and six learning goals be outlined with a template to facilitate the development of these learning goals (found in Appendix 7) provided to students prior to beginning their work placement. It is expected that the co-op student/intern will review their learning goals with their employer at the halfway point and end of their work placement.

One of the key components of work-integrated learning and specifically co-operative education, is the focus and value placed on reflection and feedback as part of the learning experience. The Engineering Co-op Internship Program will implement the use of employer evaluation forms to be used halfway through and at the end of a work placement. These forms (found in Appendix 8) have been developed using the National Association of Colleges and Employers (NACE) Career Readiness Competencies in addition to the Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS) Competency-Based Assessment system for evaluating experience. Employer evaluations will assess students' performance while on placement within the following competency areas:

- Critical Thinking and Problem Solving
- Oral and Written Communication
- Teamwork and Collaboration
- Information Technology Application
- Leadership
- Global and Intercultural Fluency
- Professionalism and Work Ethic
- Career Management

To ensure that both co-op students/interns and employers are supported throughout the work placement, a Co-op Coordinator from the College of Engineering will conduct a site visit within the first four months of the work placement (usually around completion of month two or early within month three). Site visits will be conducted in-person in most cases, however when travel to the location is not possible, either Skype or phone site visits will be completed.

Objectives for Employers

Through participation in the Engineering Co-op Internship program, employers will:

1. Support Engineering students in the development of their self-identity as future engineers.

2. Gain a fresh, new perspective in their work environment.
3. Receive assistance with special projects.
4. Have the opportunity to engage closely with the College of Engineering to feed their talent pipeline and establish future partnerships.
5. Provide one or more employees with the opportunity to develop their management and leadership skills through supervision and mentorship of a co-op student/intern.
6. Complete interim and final performance evaluation forms with their co-op student/intern with a focus on behavioral-based feedback and the co-op student/intern's contribution(s) to the team.
7. Support and partake in a site visit with a Co-op Coordinator from the College of Engineering.

Objectives for College of Engineering Faculty and Staff

Through involvement with the Engineering Co-op Internship program, College of Engineering faculty and staff will:

1. Support Engineering students in their professional growth and development as future engineers.
2. Have the opportunity to engage directly with industry to cultivate and develop relationships to advance research in priority areas.

Program Success Indicators

One of the challenges associated with work-integrated learning programs is that their success is largely dependent upon industry demand. Experience with the existing internship program, as well as the results of the employer survey, suggests that there will be a consistently strong base of demand for our students. Even in challenging economic times, historical data indicates that work placements can increase in certain industries experiencing a downturn, perhaps due to the relatively inexpensive and flexible employment options provided by students on work terms. Students, in turn, also see increased value in taking on a work placement realizing that with related work experience comes greater marketability to employers following graduation. While it is not possible to predict the future of each industry, it is safe to say that there will always be a need for student work placements as part industry's talent pipeline.

The Engineering Co-op Internship Program will be considered successful so long as students and employers are effectively being matched together. The current Professional Internship Program has seen steady growth in the number of placements over the last several years. Ultimately, the College of Engineering would like to see fifty percent of its graduates complete at least one work placement as part of their degree program.

Program Evaluation

Evaluation of the Engineering Co-op Internship Program will take place at various points in the year and with both student and industry stakeholders. Students who have completed a work term placement will receive a survey upon their return to the College of Engineering to gather data on their experience and to seek feedback on the program. An annual survey will be sent to employers who hired through the Engineering Co-op Internship Program to measure their satisfaction with the program and to see feedback for program improvement.

It is recommended that the College of Engineering investigate the possibility of creating an advisory committee, comprised of industry partners, students and representatives from the College of Engineering. This committee would meet annually to discuss the program, trends in employment, student needs, industry needs, etc.

Resource Implications

The College of Engineering has begun the acquisition of required resources to manage a successful work-integrated learning program. A Co-op and Career Coordinator has been hired on a term basis (until September 2020) to develop the full proposal for the Co-op Internship Program. It is expected that this position will be responsible for the transition from the current Engineering Professional Internship Program to the Co-op Internship Program upon approval.

Current Resources

The Engineering Professional Internship Program has been available as an option to undergraduate students since the 1990's. Relationships have been developed and are in a maintenance phase with many industry representatives and student placement rates are at an all-time high. Processes to facilitate the matching of students and employers are in place, and technology requirements (specifically, use of CareerLink database) are secured and in use.

Presently, each department within the College of Engineering assigns a minimum of one faculty member to serve as a faculty supervisor for students from that program while they are out on placement. Faculty supervisors mark reports for every four months of experience. A Sharepoint site, developed within the College of Engineering, is used to accept student reports and for faculty supervisors to input grades (pass/fail) and feedback.

One Academic Advisor and one Clerical Assistant from the Engineering Student Centre currently provide support to the Engineering Professional Internship Program with some of the administrative tasks associated with the academic side of the program.

The Engineering Professional Internship Program operated historically as a partnership between the College of Engineering and the Student Employment and Career Centre. Presently, elements of this partnership have been maintained as the internship program continues to use interview space available at the Student Employment and Career Centre. By using this interview space, employers have a central location to conduct interviews, which includes reception and waiting areas for students. Retaining this element of the partnership helps to provide a

seamless experience for employers who are looking to recruit on campus, as many are shared employer contacts between both stakeholder groups.

Start-up Costs

This section focuses on the various resources and associated costs that will be required to operate a work-integrated learning program that adheres to the principles of co-operative education.

- **Staff Resources**

While there is a Co-op and Career Coordinator in place to support the Engineering Co-op Internship Program, this position is under term status through funding from the Provost's Committee on Integrated Planning. In order to effectively manage and deliver a work-integrated learning program that adheres to the principles of co-operative education outlined through Co-operative education and work-integrated learning Canada (CEWIL), College of Engineering will need to dedicate financial resources to one permanent, full-time senior coordinator position. This coordinator would be able to manage a caseload of a maximum of one hundred students. Based on current placement statistics, a permanent, full-time junior coordinator is required to support the volume of students participating in work placements and to provide additional administrative support to the senior coordinator. The junior coordinator position will be financed through tuition revenues generated through the Engineering Co-op Internship Program.

When the Engineering Co-op Internship Program is launched, it is recommended that there be one ASPA Phase II position and one ASPA Phase I position in place as Senior and Junior Co-op Coordinator respectively. Coordinators are responsible for relationship development with employers, delivery of the Co-op Internship Preparation Course content, preparation of students for work placements, facilitating all aspects of the recruitment process (from student admission through placement), conducting site visits with placed students, marking reflective assignments (for four month terms only) and overall program evaluation. In addition, the Senior Coordinator would be responsible for strategic planning related to the program and should have a presence at institution-wide work-integrated learning forums.

One of the essential elements of a successful work-integrated learning program is relationship and job development with employers and industry. In order to grow the program in terms of marketing to industry, it is worth considering the future hiring of a Business and Relationship Development Coordinator who is responsible for marketing the program externally. This role would also provide support to the co-op coordinators, specifically in conducting site visits, as this poses another opportunity to build and strengthen relationships within industry.

As the program grows, there is potential to hire a part-time student assistant (likely studying at the Edwards School of Business) for the academic year to provide additional support to the Engineering Co-op Internship Program staff. This role is meaningful and impactful in that it has the potential to provide a student with the opportunity to understand co-op and internship recruitment processes from the institution perspective and would allow the incumbent to begin to develop skills in the areas of professional communication, recruiting practices, relationship development, and supporting student development. For students pursuing business education in the area of human resources, this would serve as an excellent learning opportunity and would

enhance their career development as a young professional. Further to this, inclusion of a student assistant role in the Engineering Co-op Internship Program supports the co-operative model of education and its foundational principles.

- **Mentors**

Given some of the challenges associated with having multiple faculty supervisors assigned to students in each program and the turnover of faculty assignments each year, it is recommended that the faculty supervisor role shift to an Engineer-in-Residence role with a focus on mentorship. Engineers in Residence would be sought out to serve as mentors for students on long-term work placements (eight, twelve and sixteen months). In addition to serving as mentors, these individuals would be responsible for marking students' technical reports (pass/fail). Guiding documents and rubrics for marking will be provided by the College of Engineering to ensure consistency in marking and evaluation. It is recommended that these positions receive an honorarium (financed through tuition revenues) as remuneration.

By highlighting the mentorship aspect of the Engineer-in-Residence role, there is opportunity to engage either retired faculty and/or alumni within industry who have a keen interest in helping students develop as young professionals, and those wanting to give back or remain engaged with the College of Engineering. Each Engineer-in-Residence would mentor students throughout their entire work placement duration. Given current placement numbers, this would likely require four individuals in the first year of the program.

Faculty within the College of Engineering will be sought out to provide technical support for students when necessary. Faculty with experience in specific industries or areas of research may be able to answer specific student questions as they relate to the work they are doing while on placement. This will maintain faculty engagement with students and with industry.

- **Support Services**

The academic advisors within the Engineering Student Centre will need to be made aware of the structure of the Engineering Co-op Internship Program as they will be advising students on planning their academic schedules to include one or more work placements. With two coordinator roles in place, it will no longer be necessary to have one advisor assigned specifically to the Engineering Co-op Internship Program.

- **Technology Resources**

Current placeholder courses exist for the Engineering Professional Internship Program within Blackboard. This platform will likely prove useful for the Co-op and Internship Preparation Course that is required for all students who have been approved to participate in the program. Use of TopHat might also be necessary to track student attendance for this course.

The possibility of offering some elements of the Co-op and Internship Preparation Course through an online format will be considered for future years, particularly as student engagement in the program grows. Given the class schedules of undergraduate students, offering some online options may assist with ensuring that all students can complete all course components.

- **Financial Resources**

A budget is required to finance staff resources, communications and promotional materials, site visits, hospitality and professional development for program staff. All tuition revenues generated by the Engineering Co-op Internship Program will be dedicated to program operations.

The table below outlines projected revenues and expenses for the start-up period based on one hundred and fifty placements per year with one, in-person site visit per student placement. It is estimated that $20,000.00 in non-salary expenditures will be saved by only conducting in-person site visits for placements located in Saskatoon and within close proximity; all other site visits may be conducted via phone or Skype.

Engineering Co-op Internship Program Start Up Year (2020-2021) Projections		
Revenue		Based on 150 placements
Co-op Internship Preparation Course Tuition	$243.20	$36,480
Placed Student Tuition (per 4 month course)	$1,000.00	$450,000
Total Revenue		**$486,480**
Expenses		Based on 150 placements
Salary Expenditures		$272,578
Non-salary Expenditures		$64,190
Total Expenses		**$336,768**
Operation Profit/Loss		**$149,712**

Refer to Appendix 9 for a complete budget and forecasting tool for both the start-up year and subsequent years.

Revenues

While the goal is for the Engineering Co-op Internship Program to be self-sustaining, it will require initial investment to cover start-up costs, mainly in terms of securing coordinators. The main sources of revenue will come from tuition fees charged for the Co-op and Internship Preparation course and associated tuition collected through student enrolment in ECIP courses while on placement. Refer to Appendix 9 for revenue projections.

Incremental Costs

Incremental costs will become evident as the number of students in the program increases. Additional staff will be required to adequately prepare students prior to potential work placements, however the greatest draw on resources occurs when site visits and assignment/report marking take place. When placements exceed 150 placements (projected for 2020-21), additional senior coordinators and Engineers-in-Residence will be required as the numbers of students on work placements increase.

Future Considerations

Both relationship and job development with employers are key elements of a successful work-integrated learning program. While relationship development occurs naturally through the conversations that co-op coordinators have with employers, there is value in considering financing a position dedicated to this element of

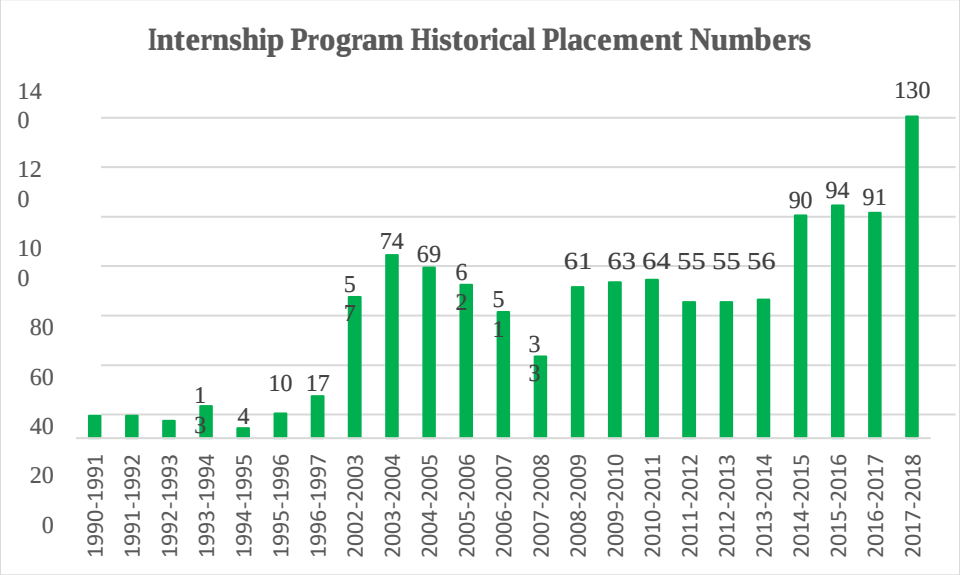
the program. There are several examples within other educational institutions where one staff member is solely responsible for engaging with employers to better understand their recruitment needs, assisting with job development and increasing overall awareness of the work-integrated learning program. Given the current External Engagement team structure within the College of Engineering, some of the relationship development and program awareness work is already being done by both the Co-op and Career Coordinator and the Associate Dean of Research and Partnerships. It is worth examining the roles of the individuals on the External Engagement team to determine if relationship development with employers can be accomplished through the natural evolution of conversations that these individuals are having with industry representatives or if there is a need for additional resources in this area. Further, if there is a desire to increase employment opportunities within specific industries and to increase placements across the country (for example, more opportunities for Engineering Physics students, access to employment opportunities within other provinces), there will likely need to be a dedicated resource to complete this work. This staff resource will need to be factored into future budget considerations.

There is an opportunity to look at ways in which employers and industry can become involved with the program and the college beyond employment of co-op students and interns. Some employers may be interested in creating awards which include a scholarship as well as employment through the co-op internship program. The College of Engineering should also consider creating an event that promotes networking between prospective students (mainly first years), returning co-op students/interns and industry. This type of event would serve as an opportunity to market the program to multiple stakeholders and may provide an avenue for employers wishing to contribute to the co-op internship program through event sponsorship. Lastly, industry may be interested in partaking in resume reviews and mock interviews with students.

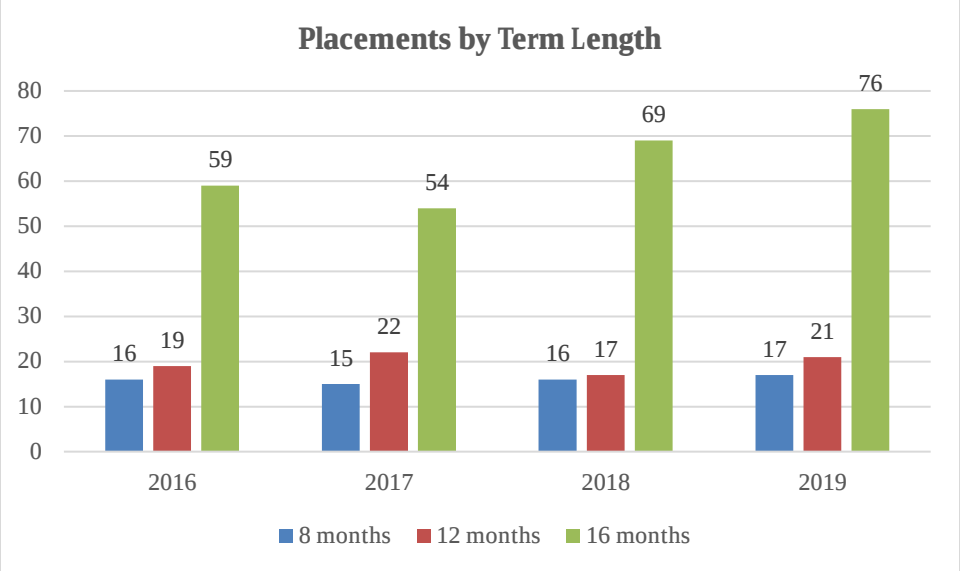
With the re-imagining of career services on the University of Saskatchewan campus comes great opportunity for collaboration and potential shared resources. It has become evident that senior leadership on campus is committed to the development of work-integrated learning programs that support students' learning and career development. The College of Engineering will remain in close contact with central career service providers on campus to ensure alignment with institutional priorities and to avoid duplication of services.

In consideration of engineering students' overall career development, there is an opportunity to provide enhanced engineering-specific career development and employment supports within the college. The development of a centre dedicated to career and employment services that is integrated with the Co-op and Internship Program has the potential to impact the student experience in a meaningful way. By taking a holistic approach to engineering students' career development, beginning in first year with strategic engagement in all years of a degree program, the College of Engineering will increase overall student engagement and professional development. Further, this engagement will contribute to the success of the Engineering Co-op Internship Program and will also contribute in an impactful way to employment following graduation. It is strongly recommended that consideration be given to the creation of a career services centre within the College of Engineering to provide students in all years of study with dedicated career development and employment services and support.

Appendix 1 - Engineering Professional Internship Program Placement Statistics



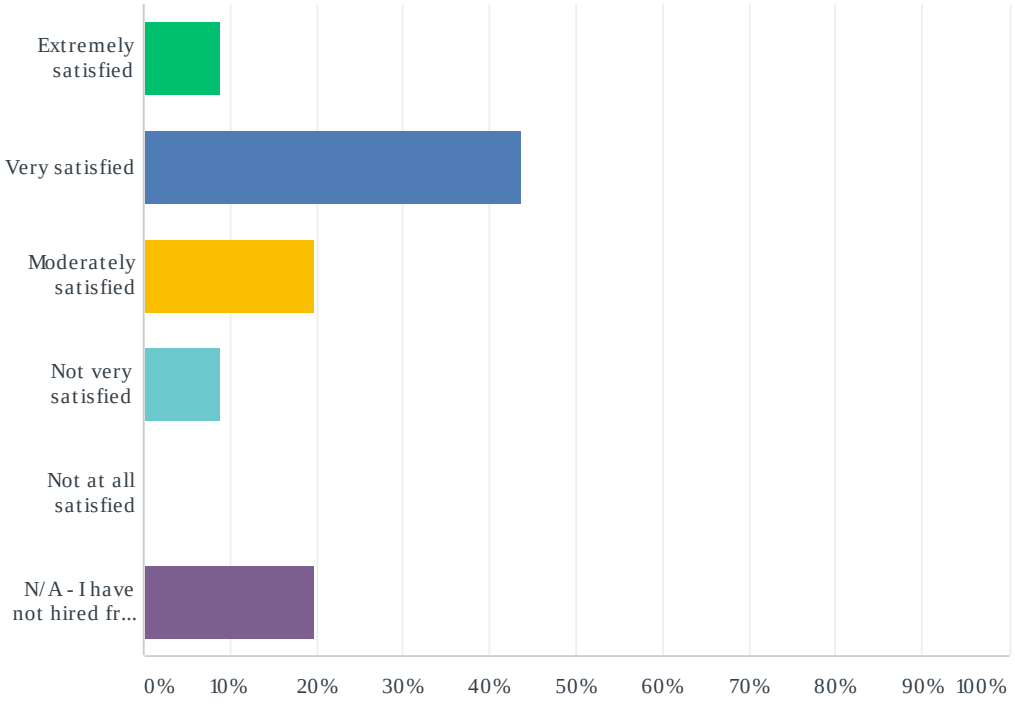
Note: Data unavailable for 1998-2001.



Note: Data incomplete for 2018 and 2019.

Q1 Please rate your overall satisfaction with the current uSask Engineering Professional Internship Program.

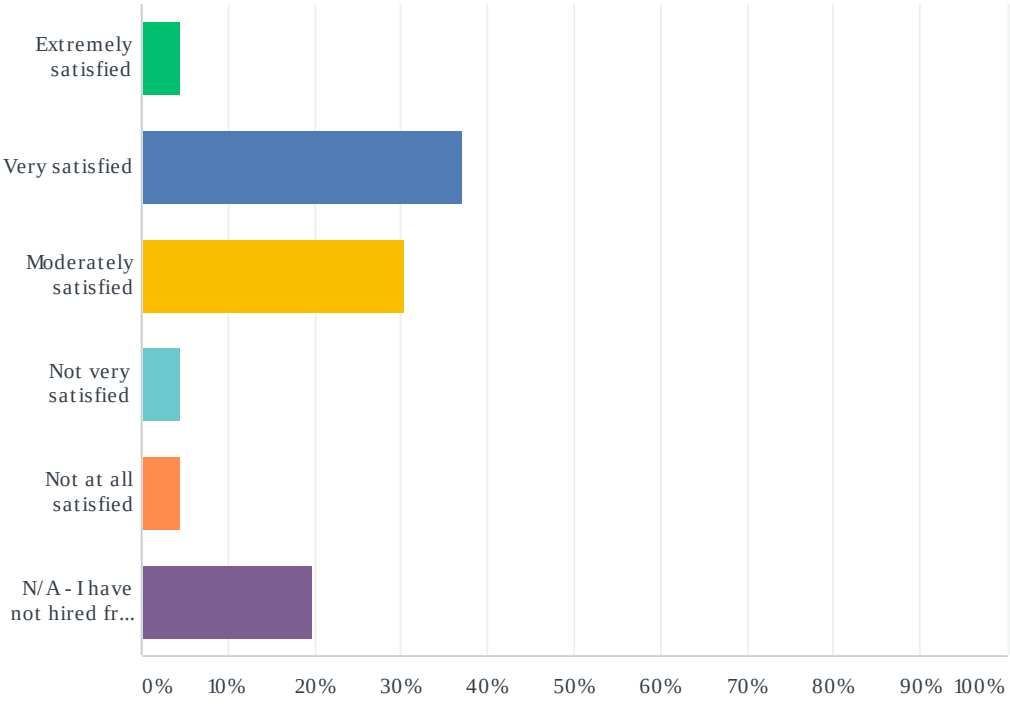
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely satisfied	8.70%	4
Very satisfied	43.48%	20
Moderately satisfied	19.57%	9
Not very satisfied	8.70%	4
Not at all satisfied	0.00%	0
N/A - I have not hired from the internship program	19.57%	9
TOTAL		46

Q2 How satisfied are you with the recruitment timelines of the current internship program (for January, May and September hires)?

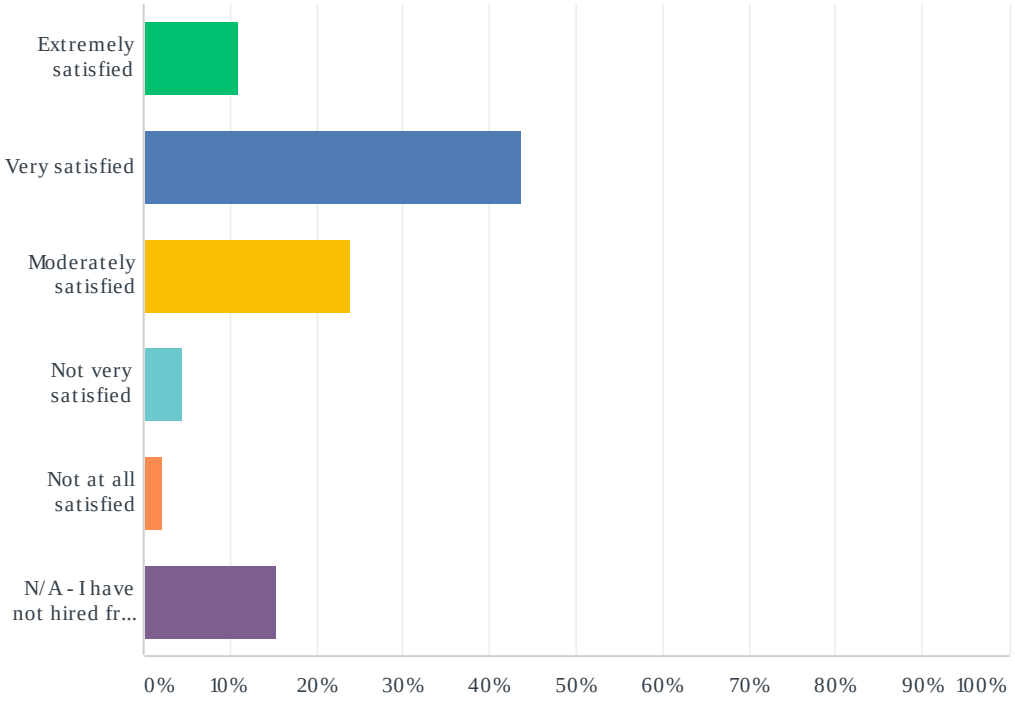
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely satisfied	4.35%	2
Very satisfied	36.96%	17
Moderately satisfied	30.43%	14
Not very satisfied	4.35%	2
Not at all satisfied	4.35%	2
N/A - I have not hired from the internship program	19.57%	9
TOTAL		46

Q3 How satisfied are you with the current job posting process using CareerLink.usask.ca to hire internship students from our campus?

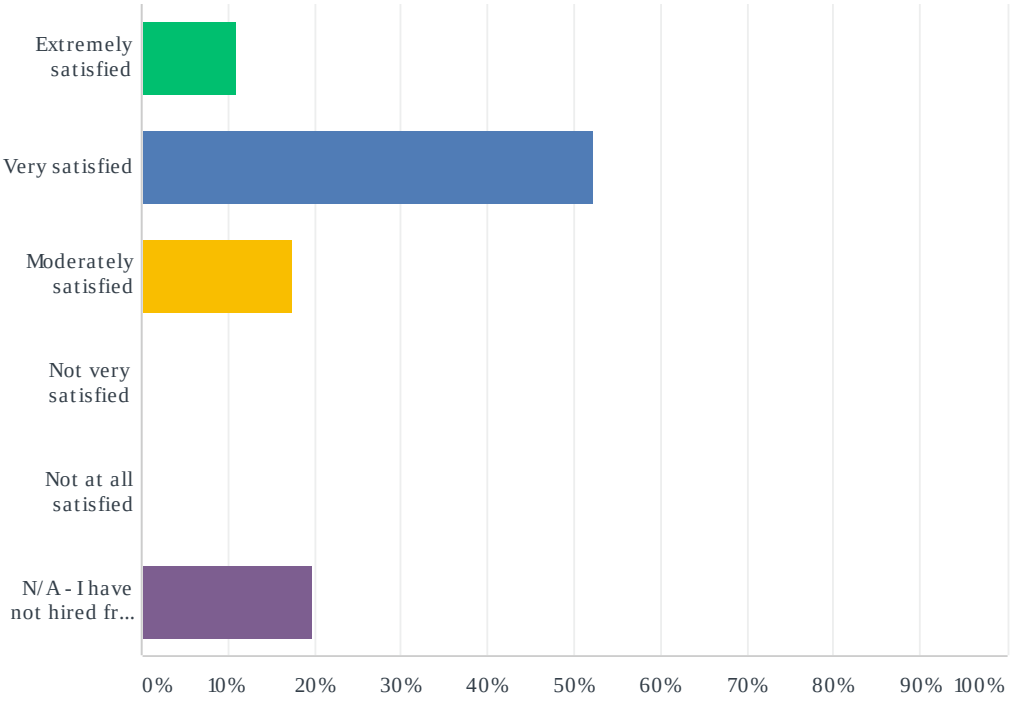
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely satisfied	10.87%	5
Very satisfied	43.48%	20
Moderately satisfied	23.91%	11
Not very satisfied	4.35%	2
Not at all satisfied	2.17%	1
N/A - I have not hired from the internship program	15.22%	7
TOTAL		46

Q4 How satisfied are you with the overall quality of uSask student applications for internship opportunities?

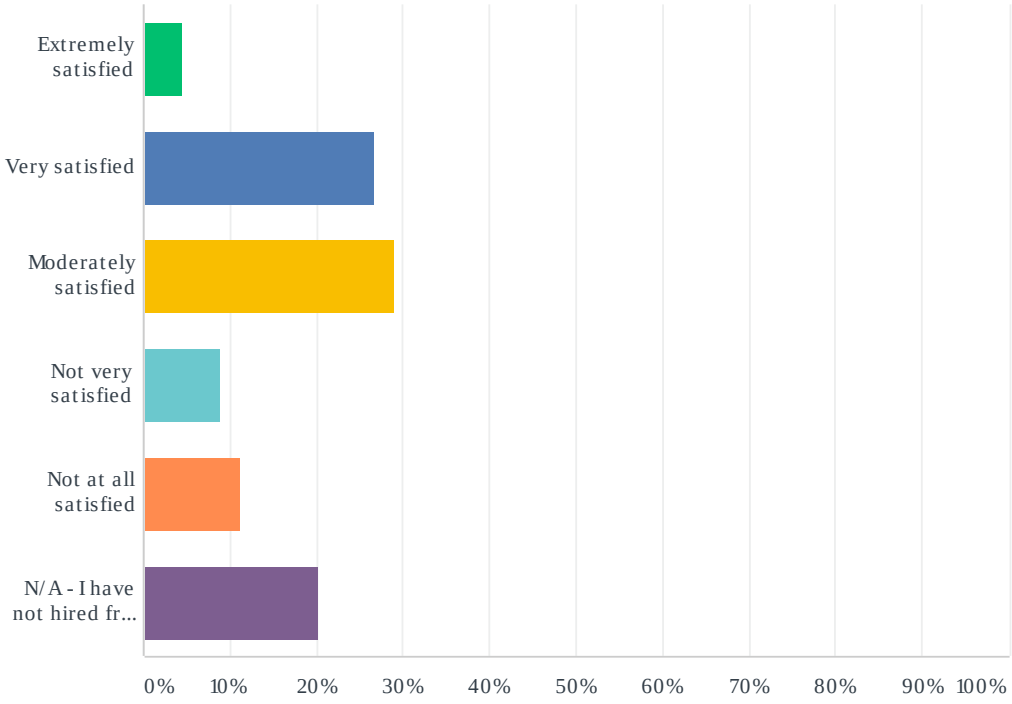
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely satisfied	10.87%	5
Very satisfied	52.17%	24
Moderately satisfied	17.39%	8
Not very satisfied	0.00%	0
Not at all satisfied	0.00%	0
N/A - I have not hired from the internship program	19.57%	9
TOTAL		46

Q5 The College of Engineering's current internship program uses a Rank/Offer system where employers submit a ranked list of candidates through Careerlink.usask.ca and the College of Engineering sends the offers out to students on "ranking day". Please indicate your level of satisfaction with this process.

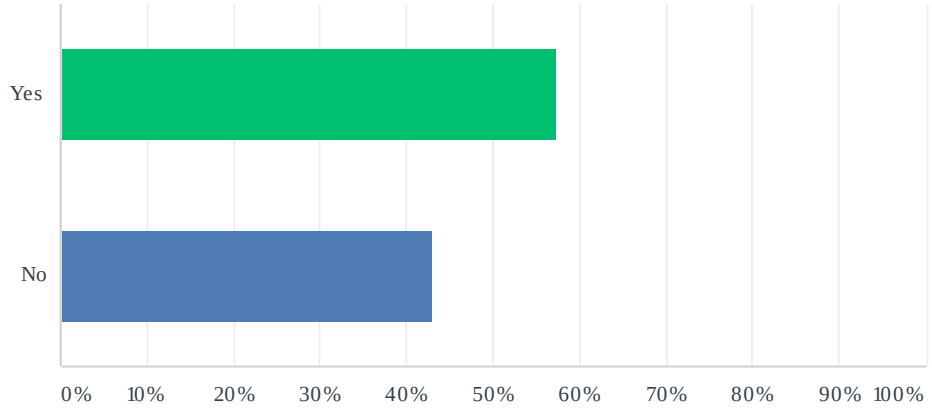
Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
Extremely satisfied	4.44%	2
Very satisfied	26.67%	12
Moderately satisfied	28.89%	13
Not very satisfied	8.89%	4
Not at all satisfied	11.11%	5
N/A - I have not hired from the internship program	20.00%	9
TOTAL		45

Q6 Are you usually able to recruit the number of interns that you hope for from the University of Saskatchewan?

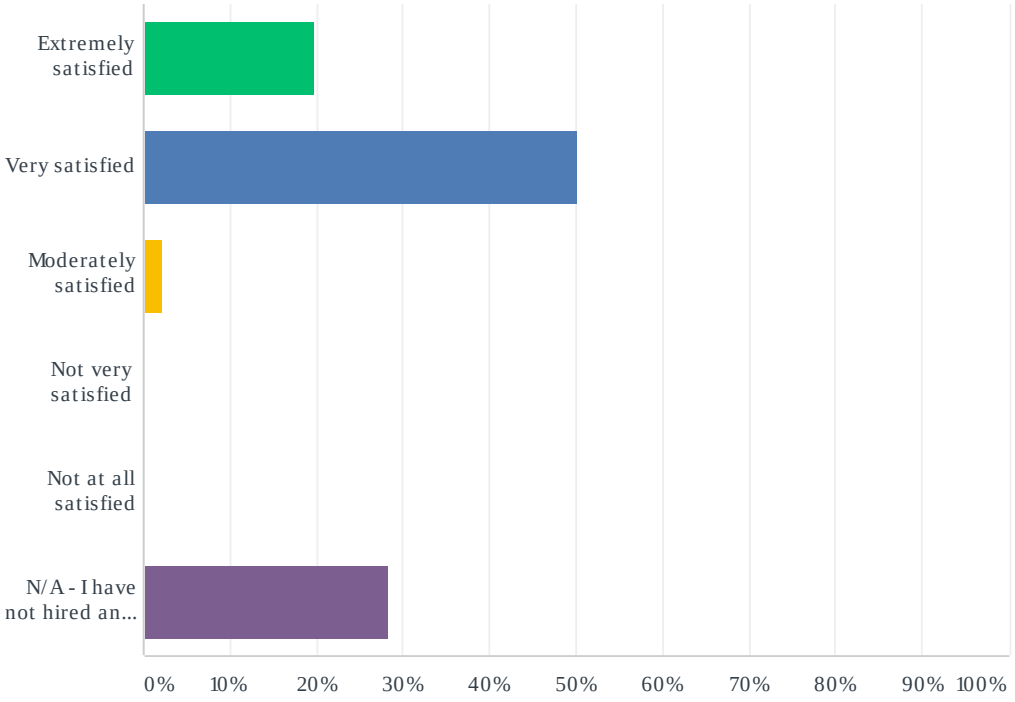
Answered: 42 Skipped: 4



ANSWER CHOICES	RESPONSES	
Yes	57.14%	24
No	42.86%	18
TOTAL		42

Q7 Please rate your overall satisfaction with the Engineering intern(s) you have recruited from the University of Saskatchewan over the past year.

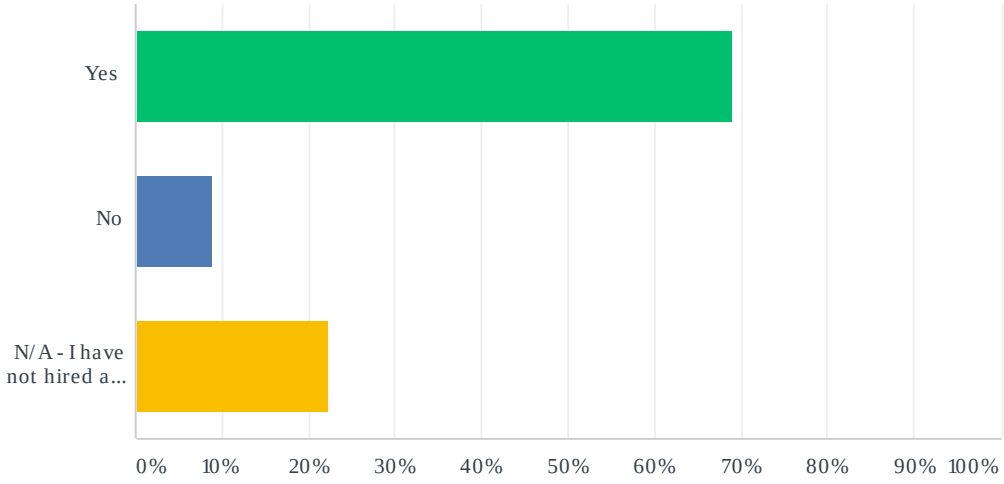
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely satisfied	19.57%	9
Very satisfied	50.00%	23
Moderately satisfied	2.17%	1
Not very satisfied	0.00%	0
Not at all satisfied	0.00%	0
N/A - I have not hired any uSask Engineering interns over the past year	28.26%	13
TOTAL		46

Q8 Do you feel that uSask Engineering students are prepared for the workplace when they begin an internship?

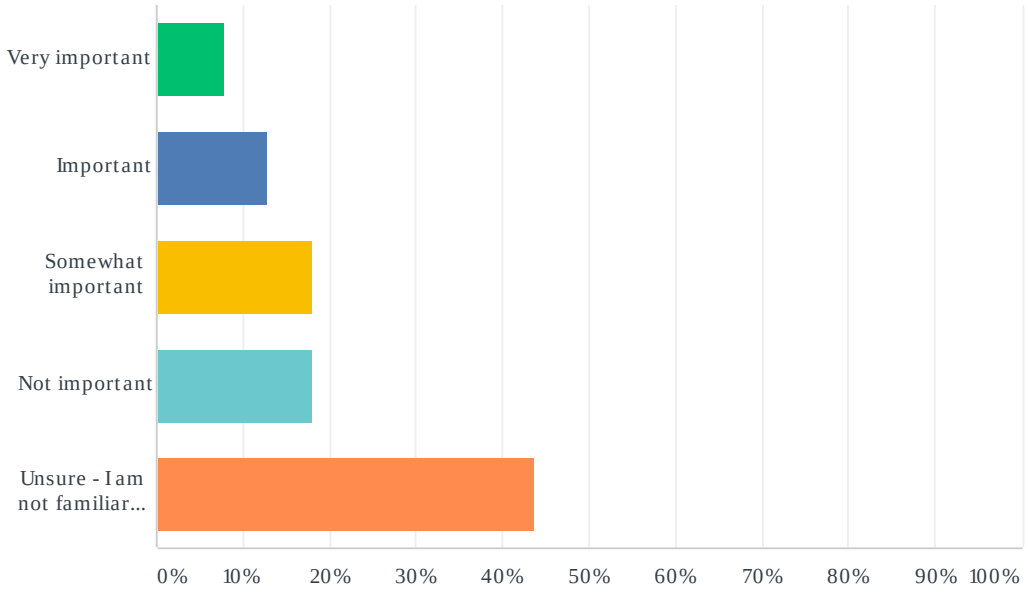
Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
Yes	68.89%	31
No	8.89%	4
N/A - I have not hired a uSask Engineering intern	22.22%	10
TOTAL		45

Q9 How important is it to you that a post-secondary institution's co-op program be accredited through Co-operative Education and Work-Integrated Learning (CEWIL)? Please note that this accreditation would only apply to the co-op placements, not to the degree programs offered by the College of Engineering. The degree programs offered at the University of Saskatchewan are currently accredited through the Canadian Engineering Accreditation Board.

Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Very important	7.69%	3
Important	12.82%	5
Somewhat important	17.95%	7
Not important	17.95%	7
Unsure - I am not familiar with CEWIL and accreditation	43.59%	17
TOTAL		39

Q10 What does "co-op" mean to you and/or your organization?

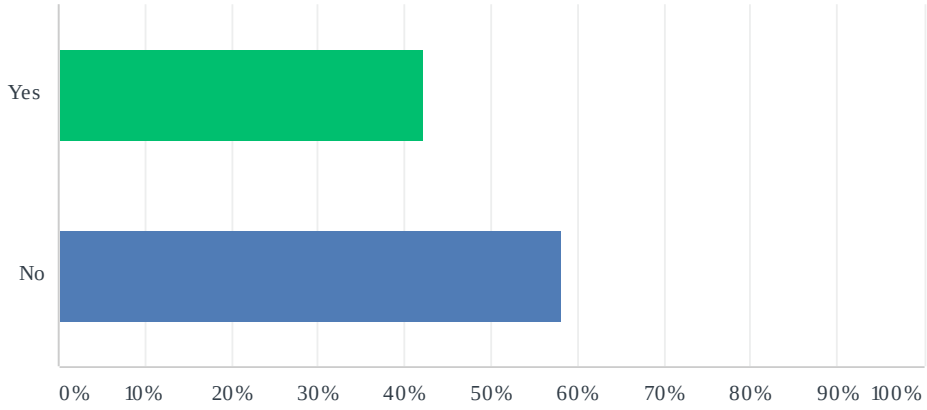
Answered: 31 Skipped: 15

Q11 What does "internship" mean to you and/or your organization?

Answered: 31 Skipped: 15

Q12 Is it a requirement for a student to be part of a formalized co-op/internship program with their educational institution in order for you to hire them for co-op/intern roles within your organization?

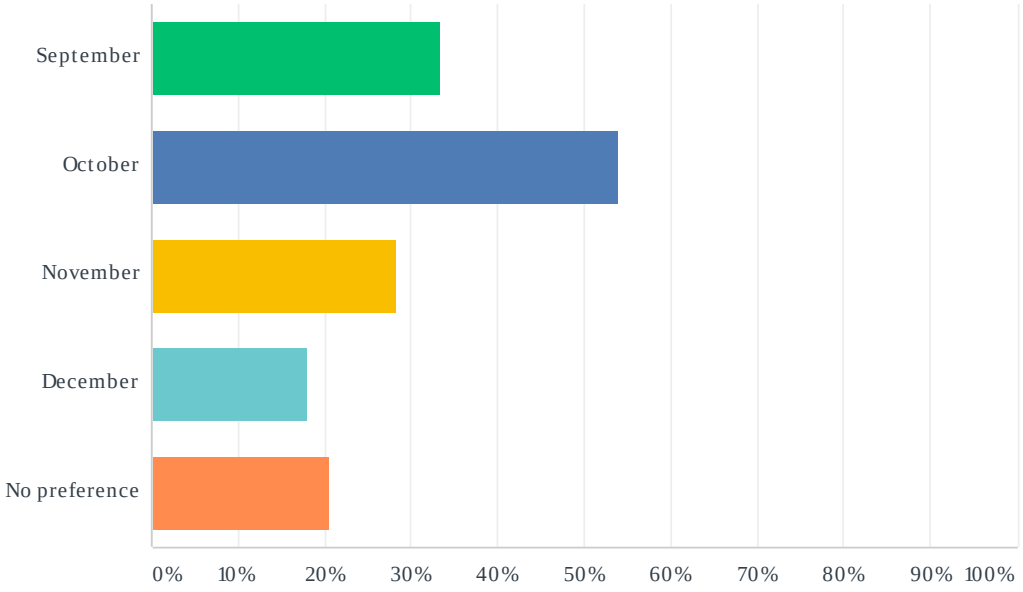
Answered: 38 Skipped: 8



ANSWER CHOICES	RESPONSES	
Yes	42.11%	16
No	57.89%	22
TOTAL		38

Q13 Please indicate the month(s) in which you would prefer to recruit a co-op/intern student for a January start placement.

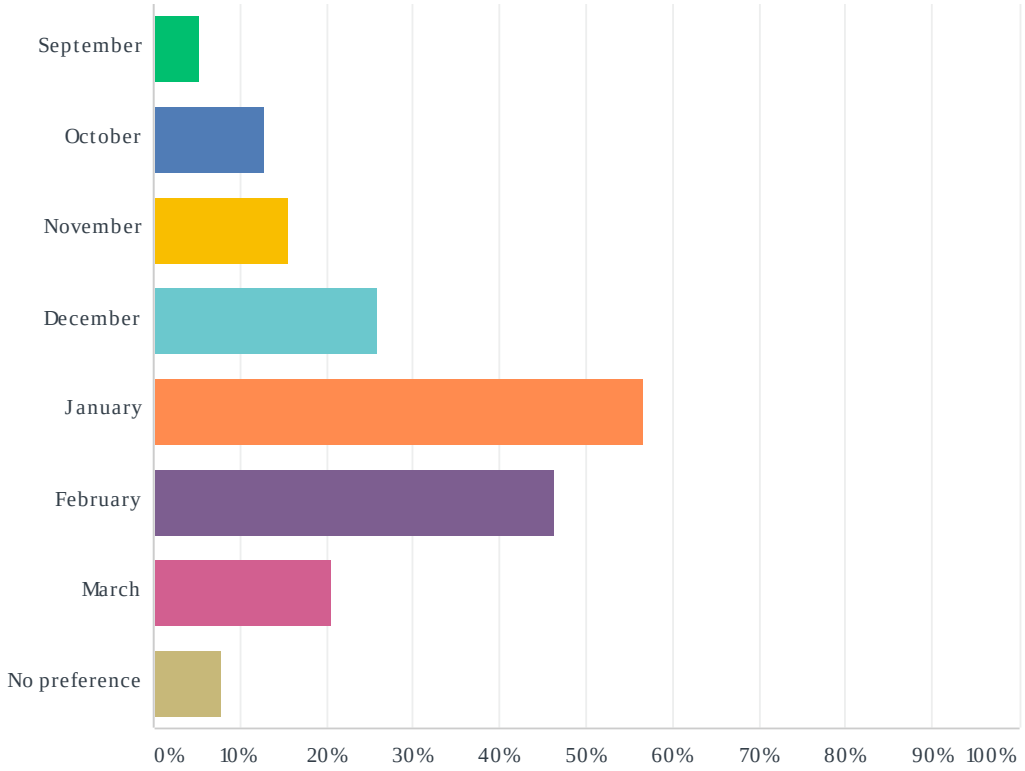
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
September	33.33%	13
October	53.85%	21
November	28.21%	11
December	17.95%	7
No preference	20.51%	8
Total Respondents: 39		

Q14 Please indicate the month(s) in which you would prefer to recruit a co-op/intern student for a May start placement.

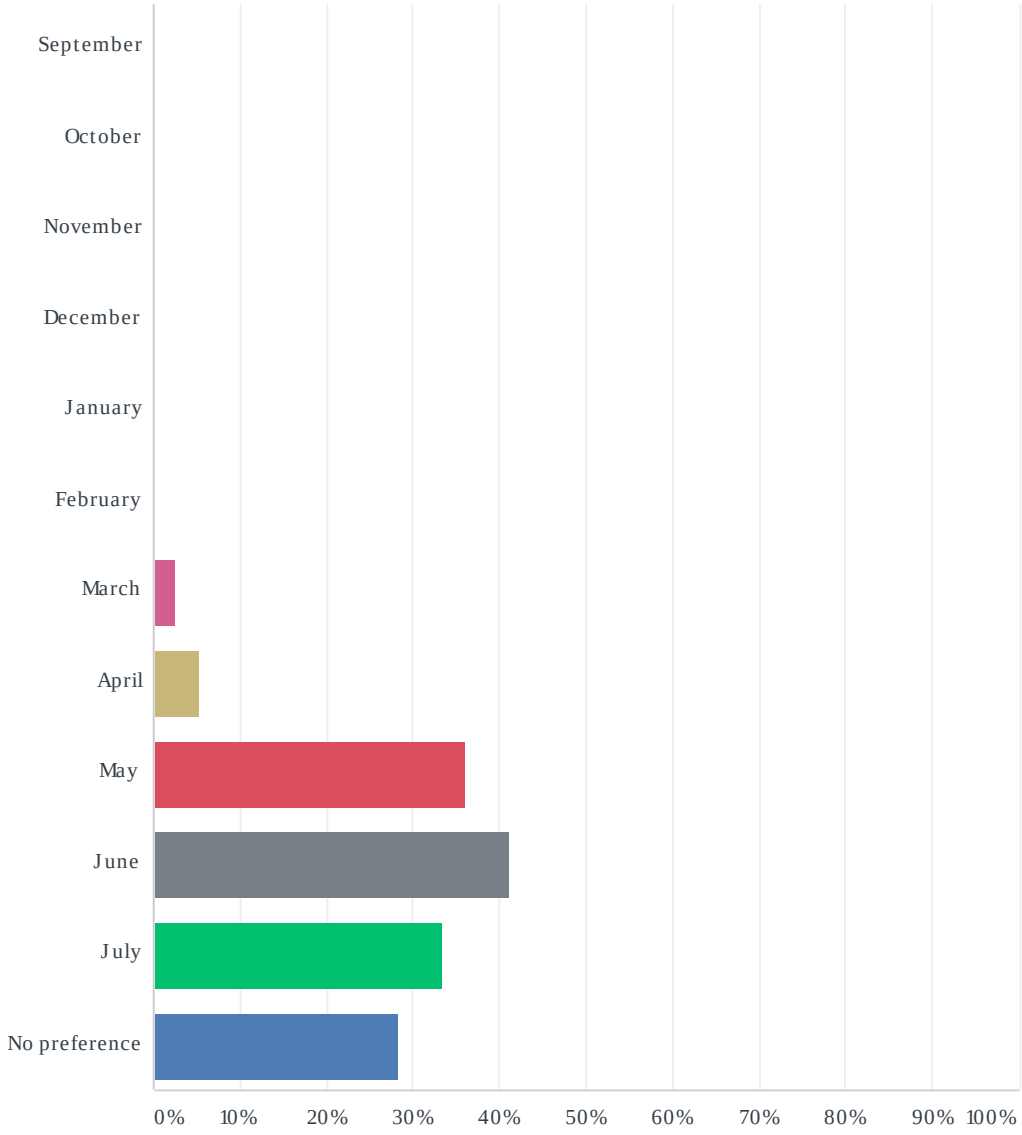
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
September	5.13%	2
October	12.82%	5
November	15.38%	6
December	25.64%	10
January	56.41%	22
February	46.15%	18
March	20.51%	8
No preference	7.69%	3
Total Respondents: 39		

Q15 Please indicate the month(s) in which you would prefer to recruit a co-op/intern student for a September start placement.

Answered: 39 Skipped: 7

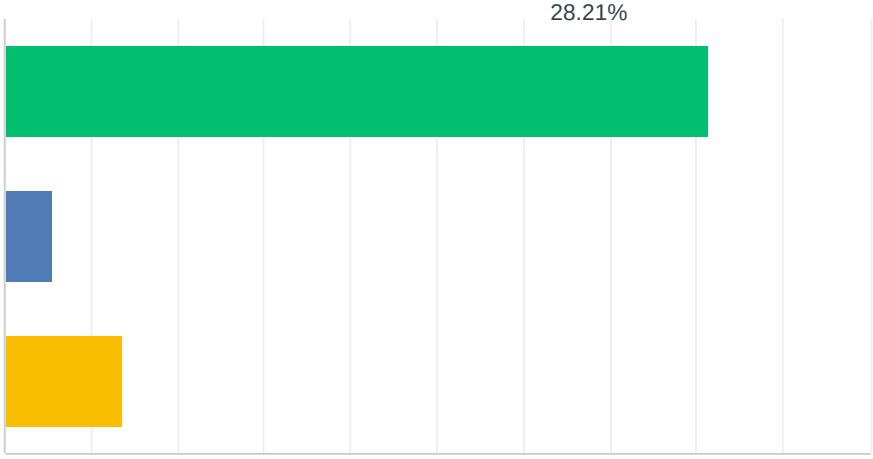


ANSWER CHOICES	RESPONSES
September	March
October	
November	
December	
January	
February	

0.00% 0	
0.00% 0	
0.00% 0	
0.00% 0	
0.00% 0	
0.00% 0	
2.56% 1	

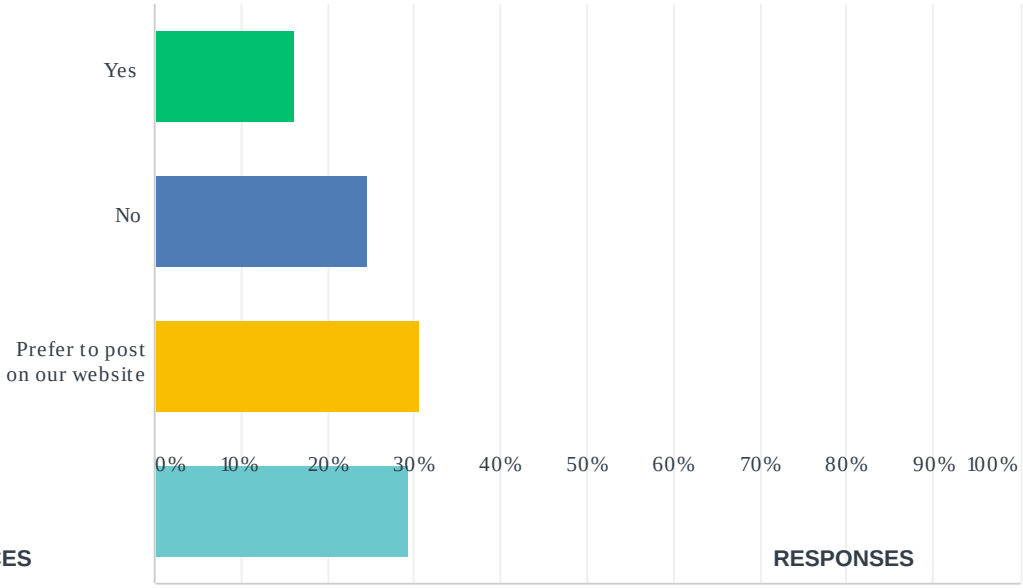
April	5.13%	2
May	35.90%	14
June	41.03%	16
July	33.33%	13
No preference	28.21%	11

Total Respondents: 39



Q16 Do you post co-op and/or internship opportunities through CareerLink.usask.ca?

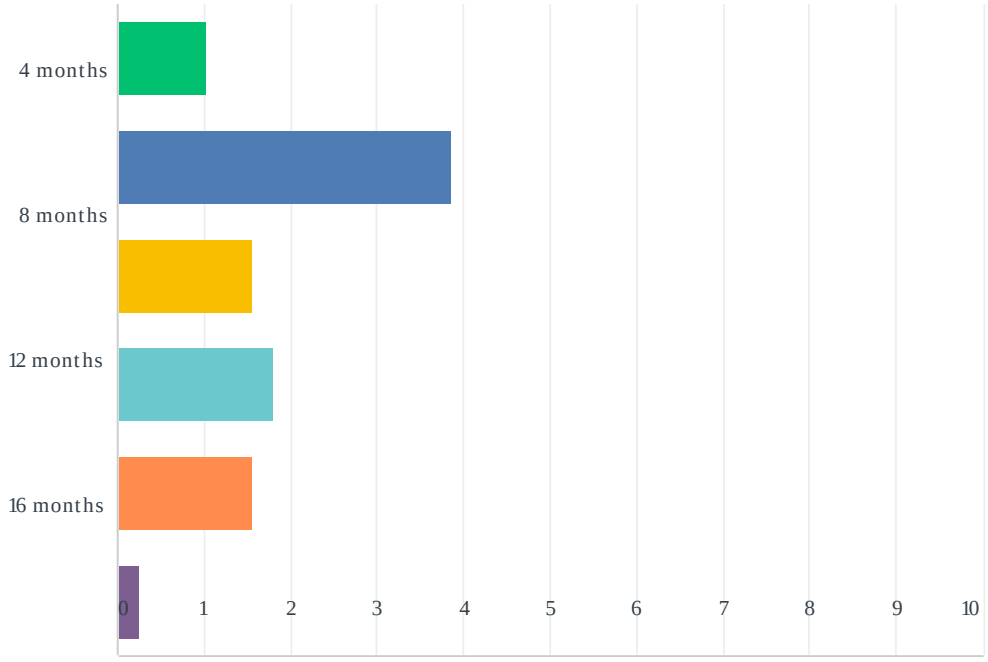
Answered: 37 Skipped: 9



ANSWER CHOICES	RESPONSES	
Yes	81.08%	30
No	5.41%	2
Prefer to post on our website	13.51%	5
TOTAL		37

Q17 Please rank (in order of preference), Engineering co-op/internship work term placement lengths.

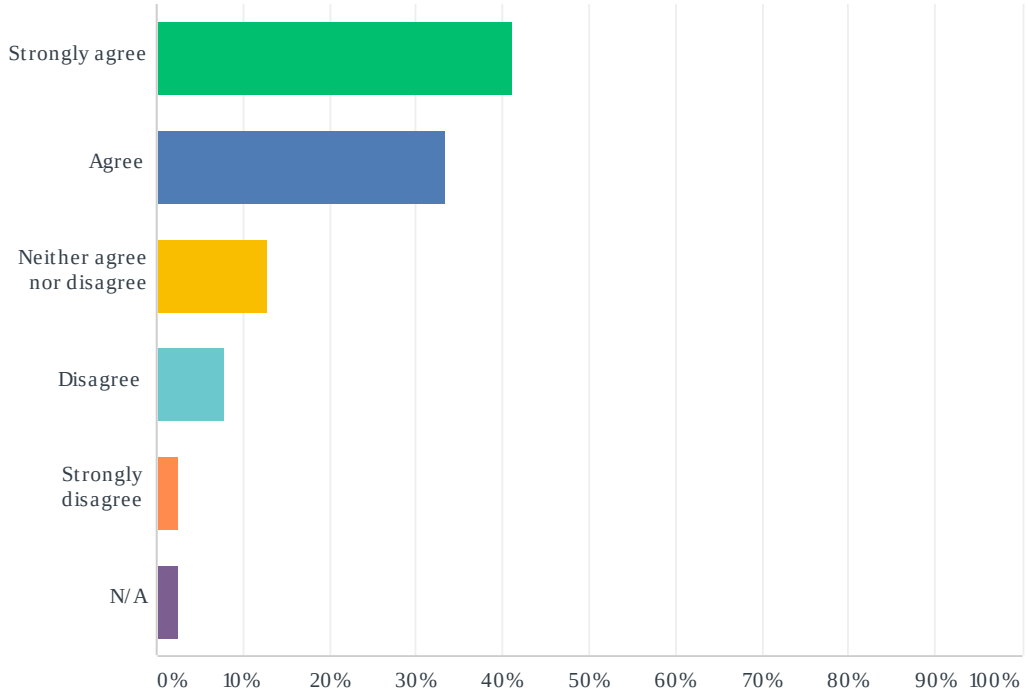
Answered: 39 Skipped: 7



	1	2	3	4	TOTAL	SCORE
4 months	10.81% 4	10.81% 4	8.11% 3	70.27% 26	37	1.62
8 months	10.53% 4	28.95% 11	55.26% 21	5.26% 2	38	2.45
12 months	31.58% 12	42.11% 16	26.32% 10	0.00% 0	38	3.05
16 months	48.72% 19	17.95%	10.26%	23.08%	39	2.92

Q18 I would be interested in hiring Engineering co-op/intern students for 4 month summer terms.

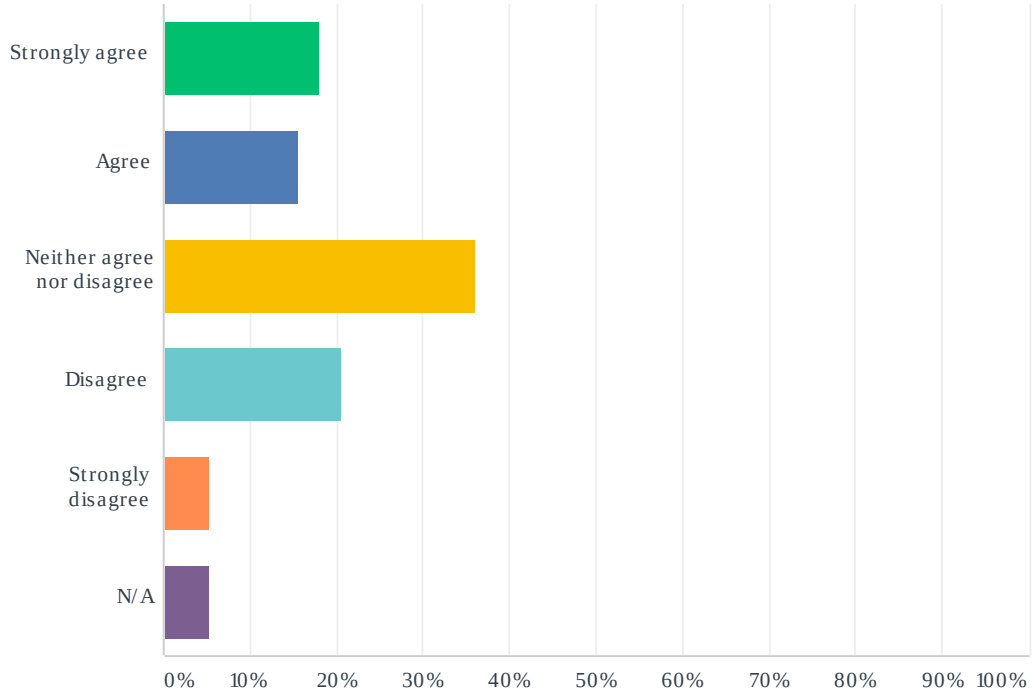
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Strongly agree	10.26%	4
Agree	38.46%	15
Neither agree nor disagree	15.38%	6
Disagree	17.95%	7
Strongly disagree	15.38%	6
N/A	2.56%	1
TOTAL		39

Q19 I would be interested in hiring undergraduate students for a co-op/internship placement.

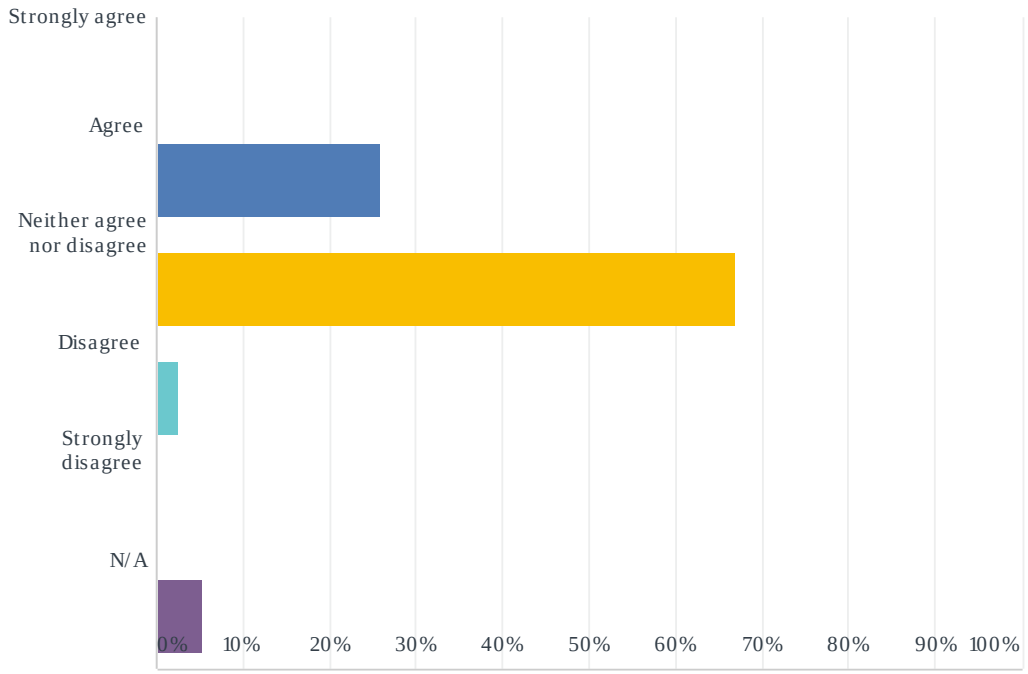
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Strongly agree	41.03%	16
Agree	33.33%	13
Neither agree nor disagree	12.82%	5
Disagree	7.69%	3
Strongly disagree	2.56%	1
N/A	2.56%	1
TOTAL		39

Q20 I would be interested in hiring graduate students (Masters or PhD) for a co-op/internship placement.

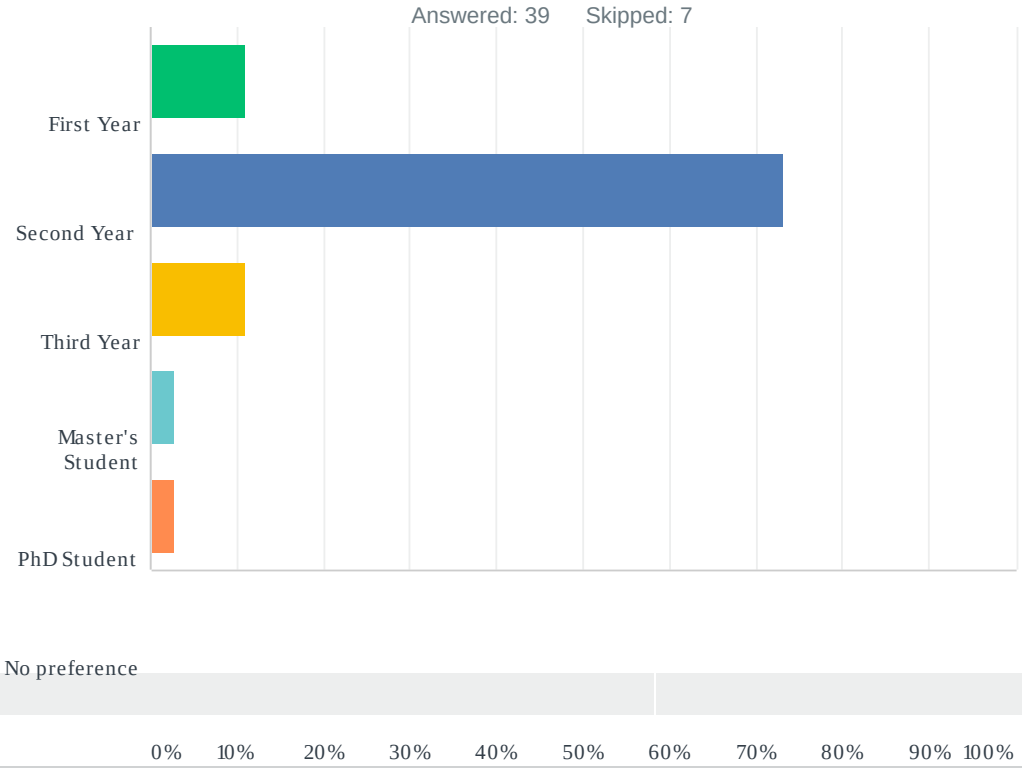
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Strongly agree	17.95%	7
Agree	15.38%	6
Neither agree nor disagree	35.90%	14
Disagree	20.51%	8
Strongly disagree	5.13%	2
N/A	5.13%	2
TOTAL		39

Q21 Please indicate which level of studies within Engineering you prefer a student to have completed when they begin a co-op/internship placement.

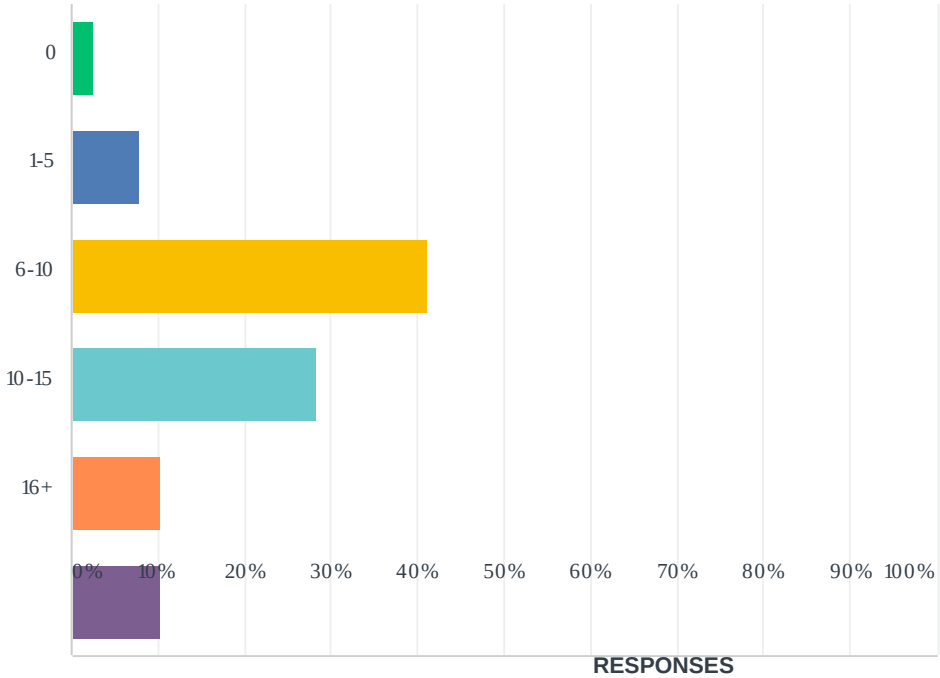
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
First Year	0.00%	0
Second Year	25.64%	10
Third Year	66.67%	26
Master's Student	2.56%	1
PhD Student	0.00%	0
No preference	5.13%	2
TOTAL		39

Q22 How many Engineering co-op/intern roles do you hope to fill with uSask students in the coming year?

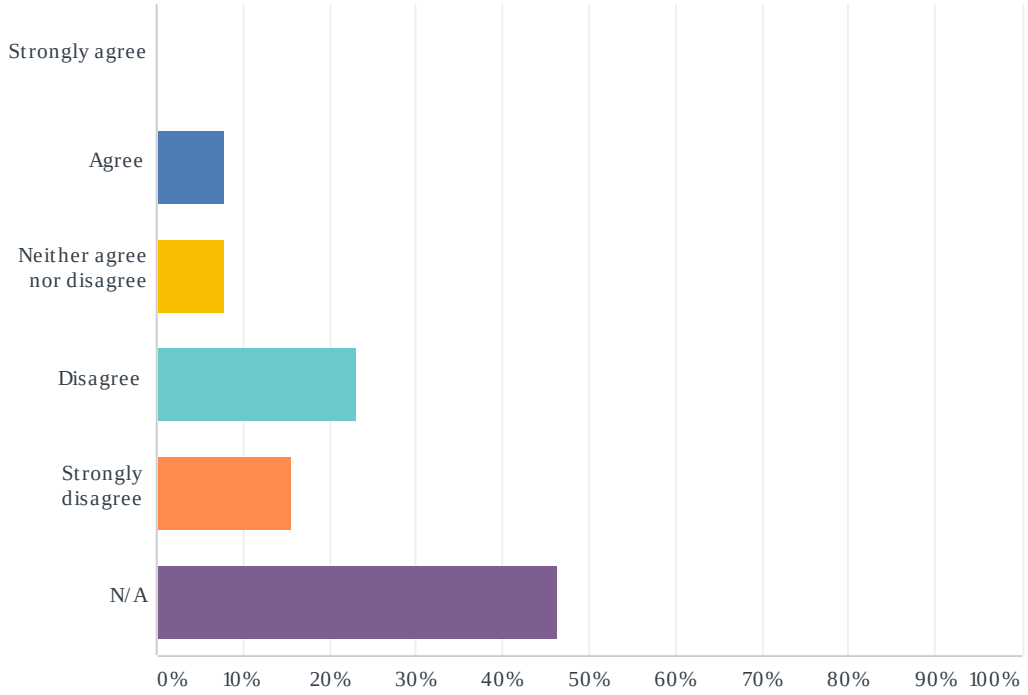
Answered: 37 Skipped: 9



ANSWER CHOICES	RESPONSES	
0	10.81%	4
1-5	72.97%	27
6-10	10.81%	4
10-15	2.70%	1
16+	2.70%	1
TOTAL		37

Q23 I would hire more uSask Engineering students under a co-op/internship program if there wasn't a P.Eng supervisor requirement.

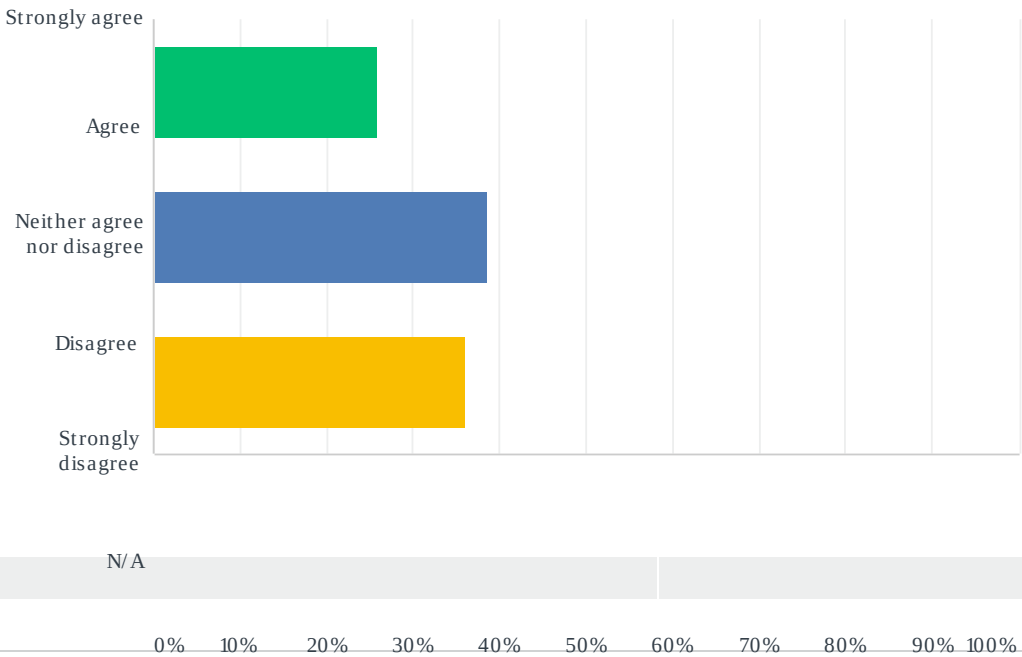
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Strongly agree	2.56%	1
Agree	7.69%	3
Neither agree nor disagree	41.03%	16
Disagree	28.21%	11
Strongly disagree	10.26%	4
N/A	10.26%	4
TOTAL		39

Q24 I would be interested in hiring uSask Engineering co-op/intern students to international locations.

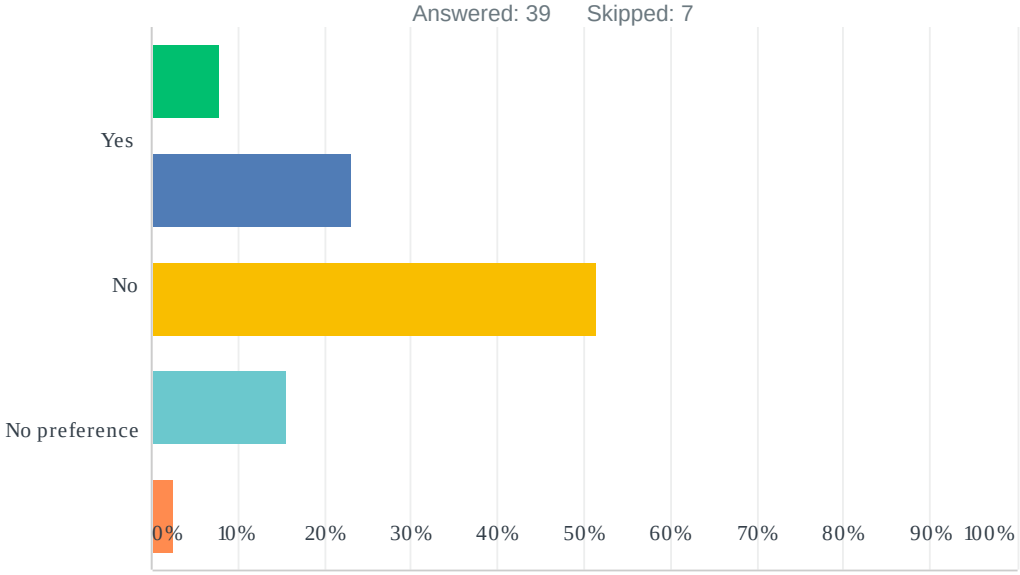
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Strongly agree	0.00%	0
Agree	7.69%	3
Neither agree nor disagree	7.69%	3
Disagree	23.08%	9
Strongly disagree	15.38%	6
N/A	46.15%	18
TOTAL		39

Q25 I would prefer if the College of Engineering had a set resume template that co-op students had to use when applying for work placement opportunities.

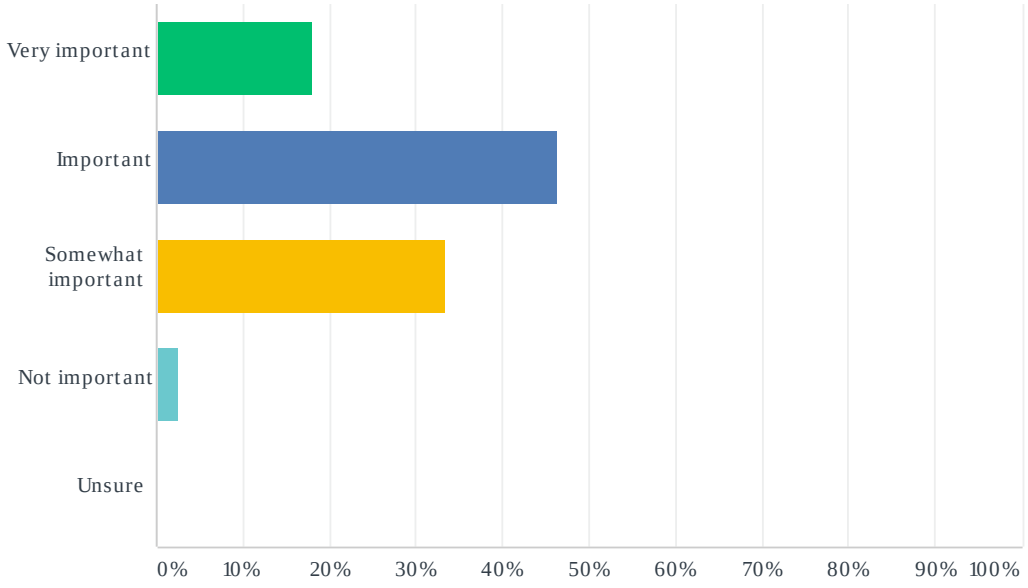
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Yes	25.64%	10
No	38.46%	15
No preference	35.90%	14
TOTAL		39

Q26 How important is an Engineering student's average when you hire for co-op/internship opportunities?

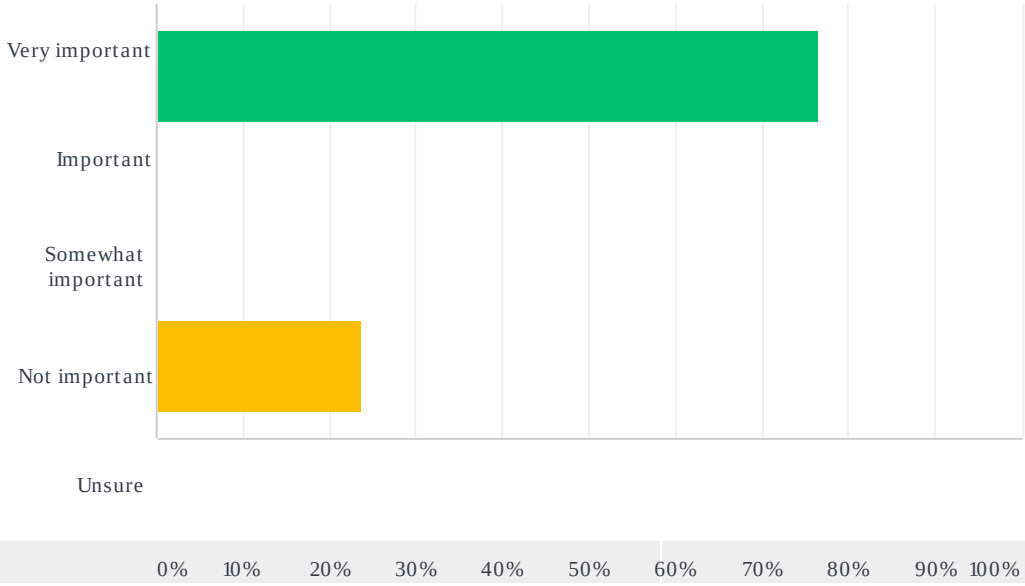
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Very important	7.69%	3
Important	23.08%	9
Somewhat important	51.28%	20
Not important	15.38%	6
Unsure	2.56%	1
TOTAL		39

Q27 How important is an Engineering student's previous work experience when you hire for co-op/internship opportunities?

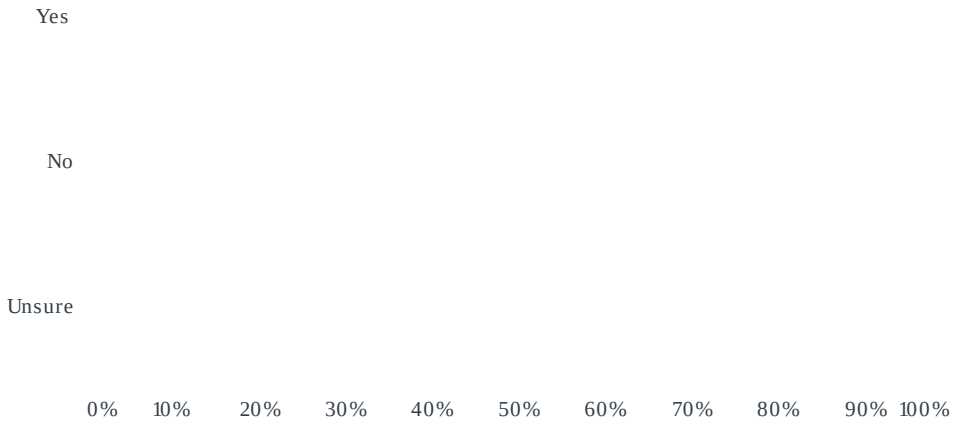
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Very important	17.95%	7
Important	46.15%	18
Somewhat important	33.33%	13
Not important	2.56%	1
Unsure	0.00%	0
TOTAL		39

Q28 Does your organization support site visits as part of a co-op program?

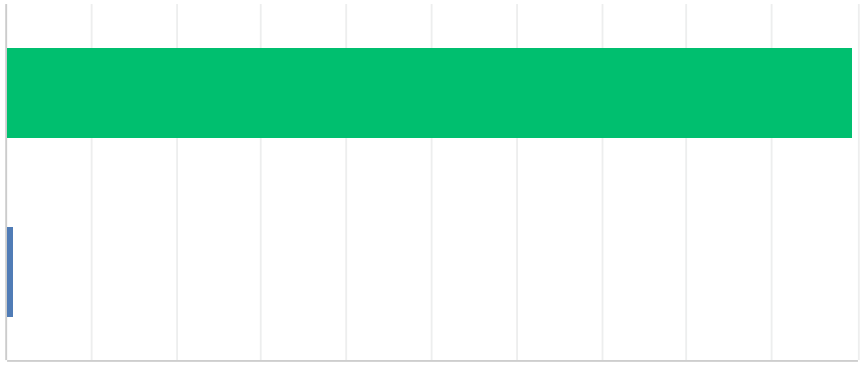
Answered: 38 Skipped: 8



ANSWER CHOICES	RESPONSES	
Yes	76.32%	29
No	0.00%	0
Unsure	23.68%	9
TOTAL		38

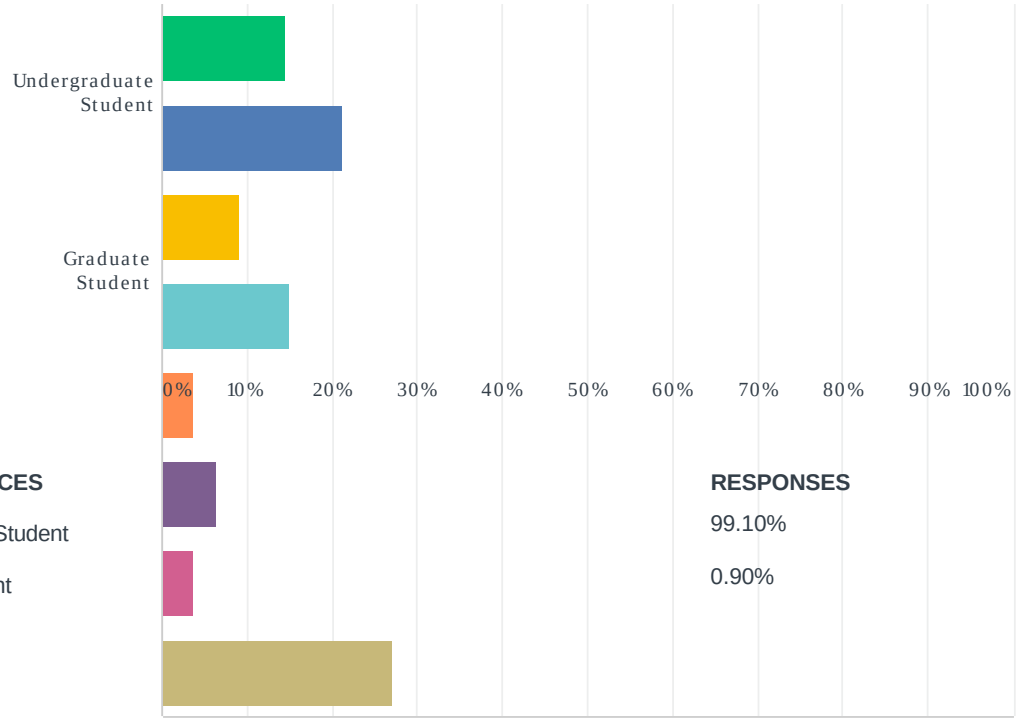
Q29 Please let us know if you have any additional comments to share.

Answered: 12 Skipped: 34



Q1 I am a(n):

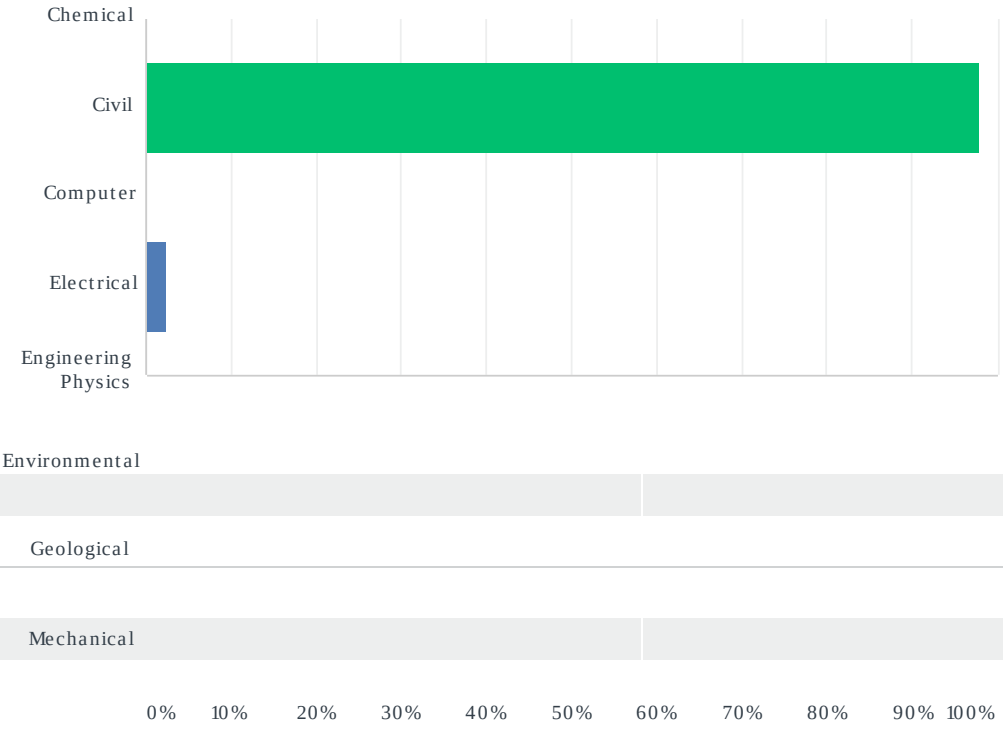
Answered: 223 Skipped: 1



ANSWER CHOICES	RESPONSES	
Undergraduate Student	99.10%	221
Graduate Student	0.90%	2
TOTAL		223

Q2 Please indicate your program of study.

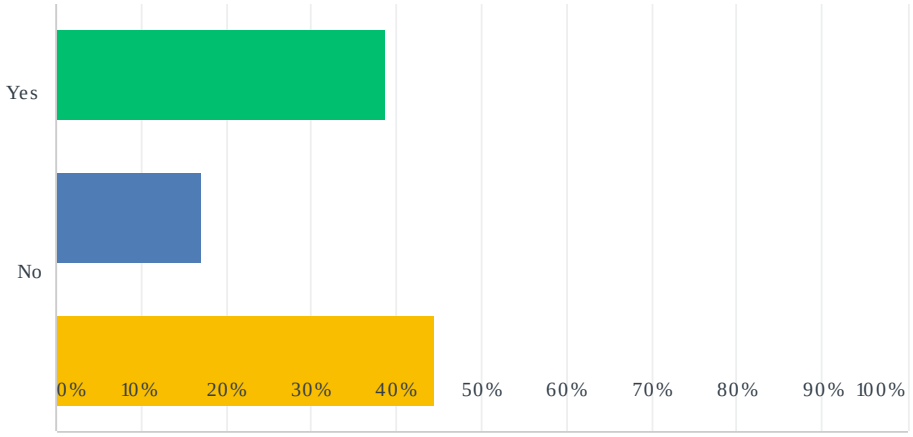
Answered: 222 Skipped: 2



ANSWER CHOICES	RESPONSES	
Chemical	14.41%	32
Civil	21.17%	47
Computer	9.01%	20
Electrical	14.86%	33
Engineering Physics	3.60%	8
Environmental	6.31%	14
Geological	3.60%	8
Mechanical	27.03%	60
TOTAL		222

Q3 I am aware of the current Engineering Professional Internship Program (EPIP).

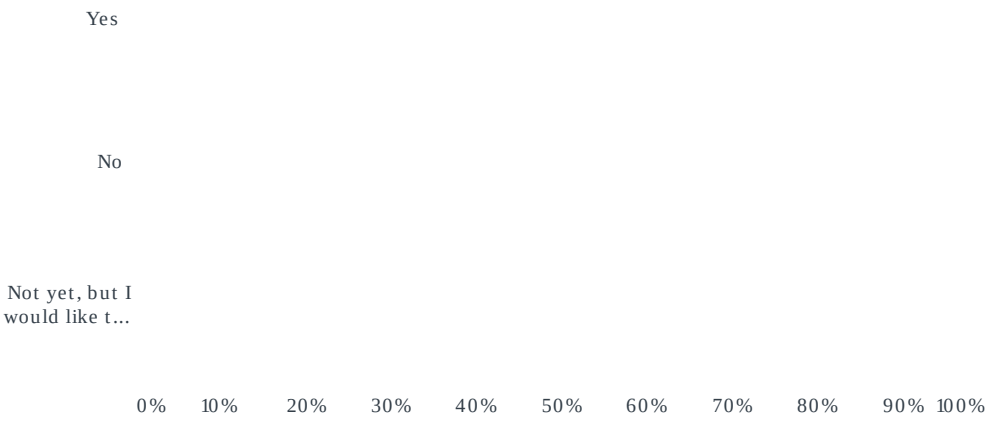
Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	97.77%	219
No	2.23%	5
TOTAL		224

Q4 I have participated in the Engineering Professional Internship Program.

Answered: 223 Skipped: 1



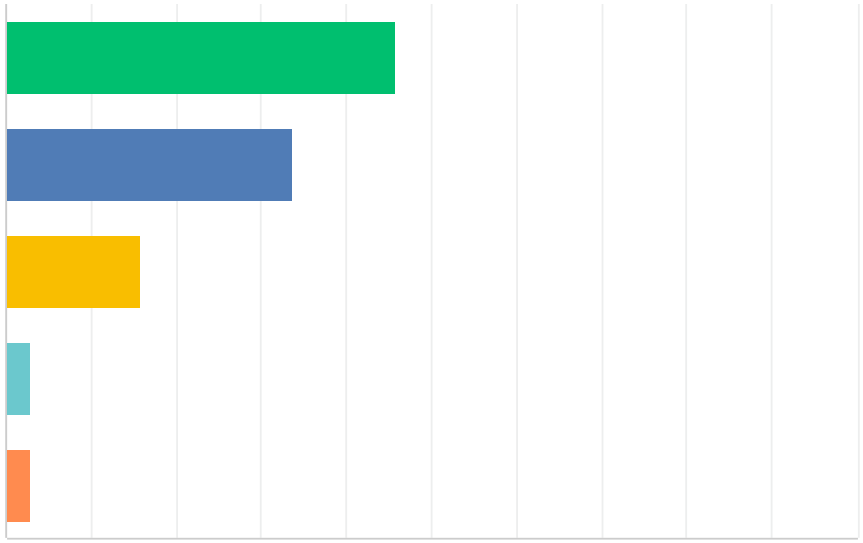
ANSWER CHOICES	RESPONSES	
Yes	38.57%	86
No	17.04%	38
Not yet, but I would like to in the future	44.39%	99
TOTAL		223

Q5 What does "internship" mean to you?

Answered: 214 Skipped: 10

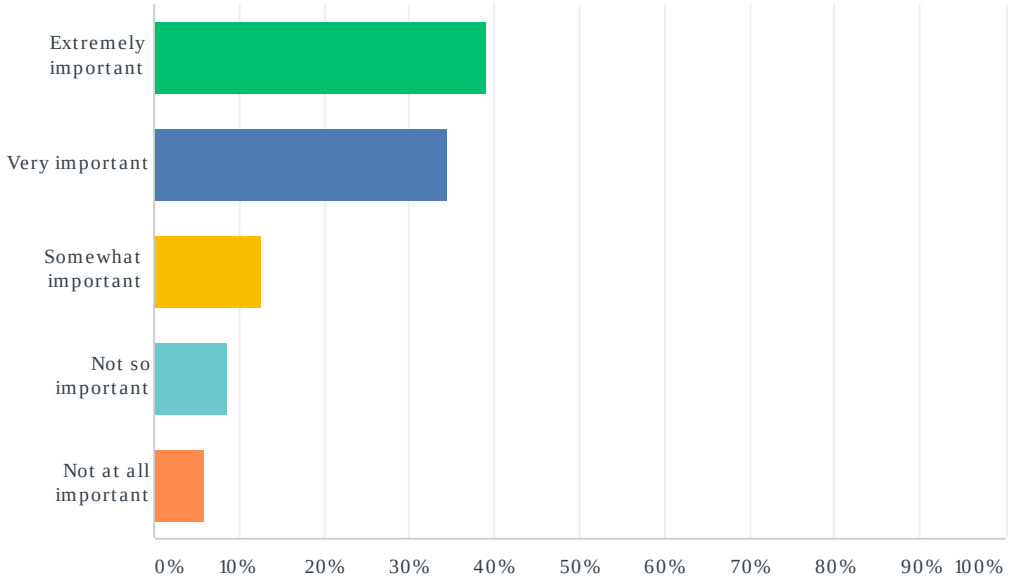
Q6 What does "co-op" mean to you?

Answered: 203 Skipped: 21



Q7 How important is it to you to be able to complete a work placement as part of your degree program?

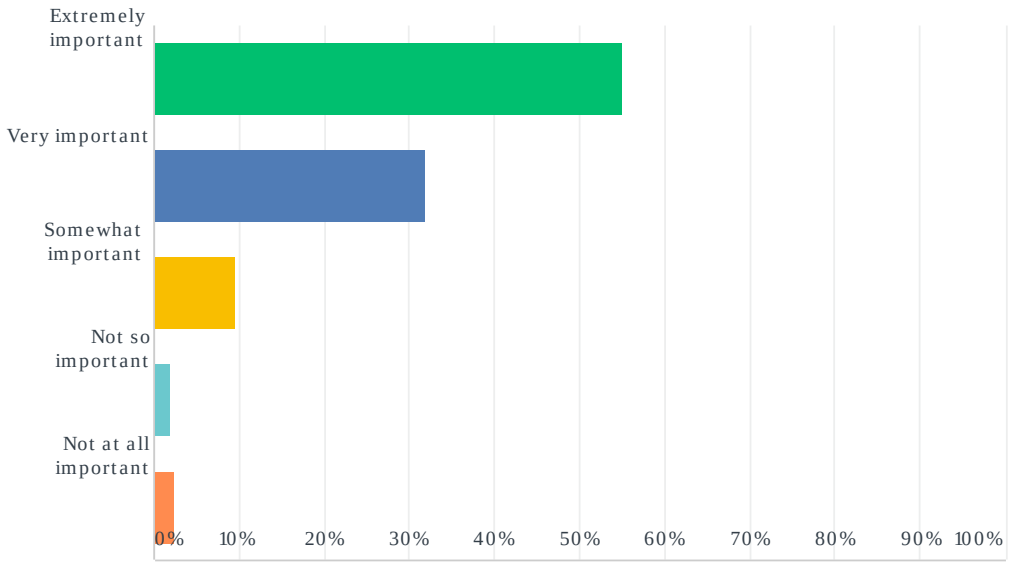
Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely important	45.54%	102
Very important	33.48%	75
Somewhat important	15.63%	35
Not so important	2.68%	6
Not at all important	2.68%	6
TOTAL		224

Q8 How important would it be to have "co-op" or "internship" listed on your parchment when you graduate?

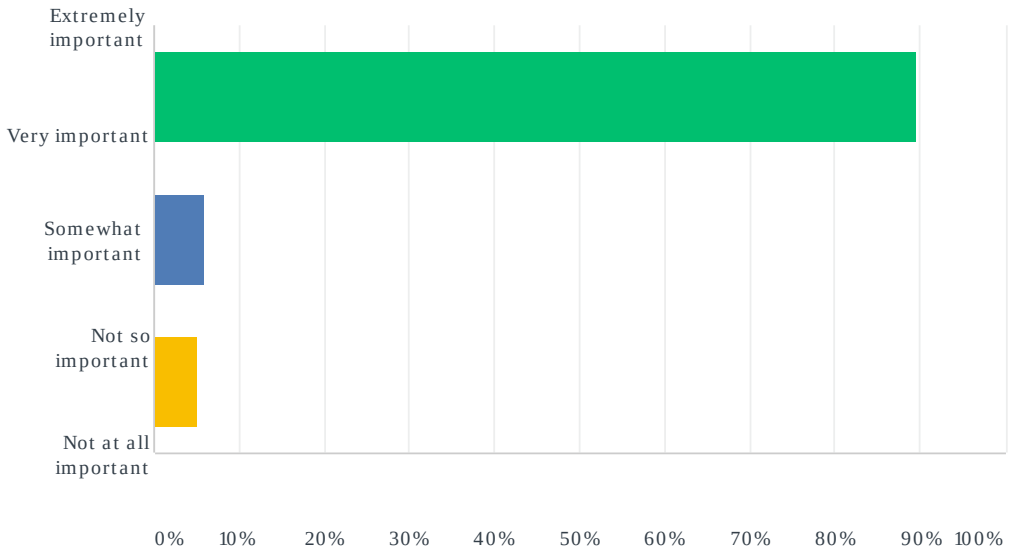
Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely important	38.84%	87
Very important	34.38%	77
Somewhat important	12.50%	28
Not so important	8.48%	19
Not at all important	5.80%	13
TOTAL		224

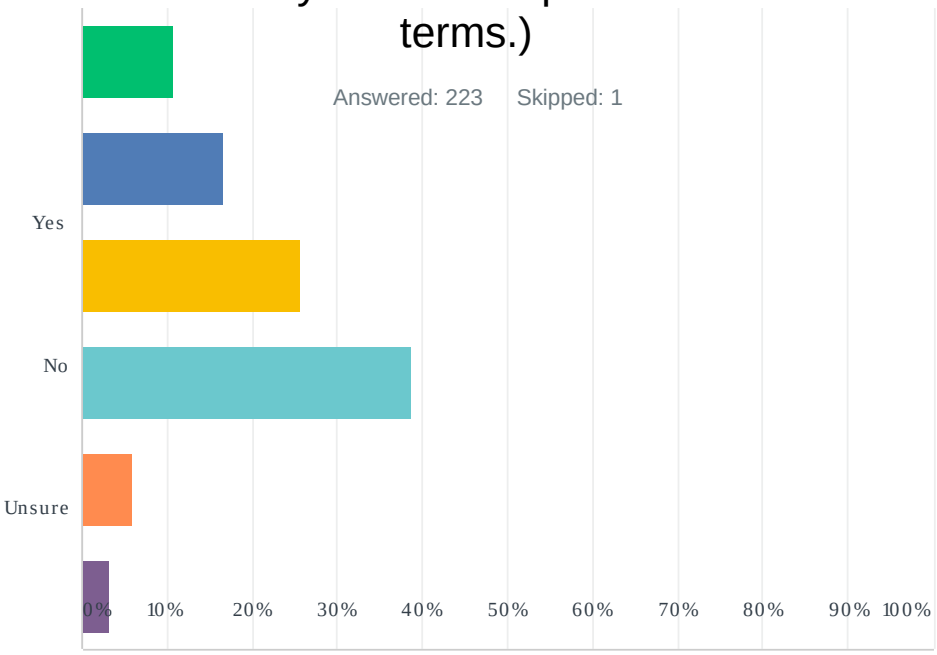
Q9 How important is it to you that your work placement provides you with experience that counts towards your Engineer-in-Training designation through APEGS?

Answered: 223 Skipped: 1



ANSWER CHOICES	RESPONSES	
Extremely important	54.71%	122
Very important	31.84%	71
Somewhat important	9.42%	21
Not so important	1.79%	4
Not at all important	2.24%	5
TOTAL		223

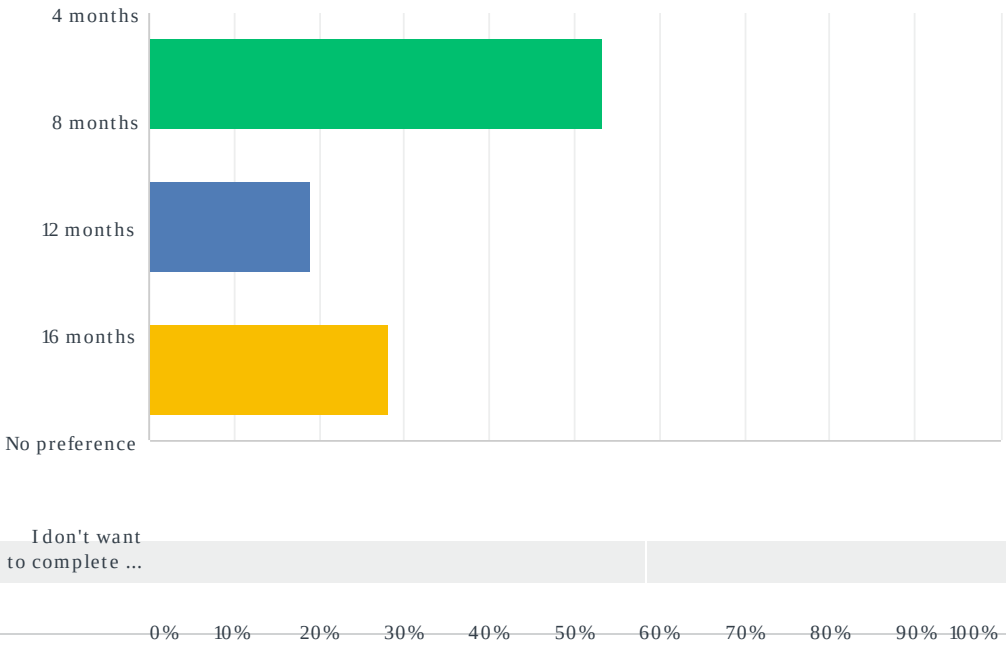
Q10 Would you take on a work placement opportunity if it meant that your degree would take you additional time to complete? (For example, a 4 year degree could take 5 years to complete with one or several work terms.)



ANSWER CHOICES	RESPONSES	
Yes	89.24%	199
No	5.83%	13
Unsure	4.93%	11
TOTAL		223

Q11 Which work placement term length is most appealing to you?

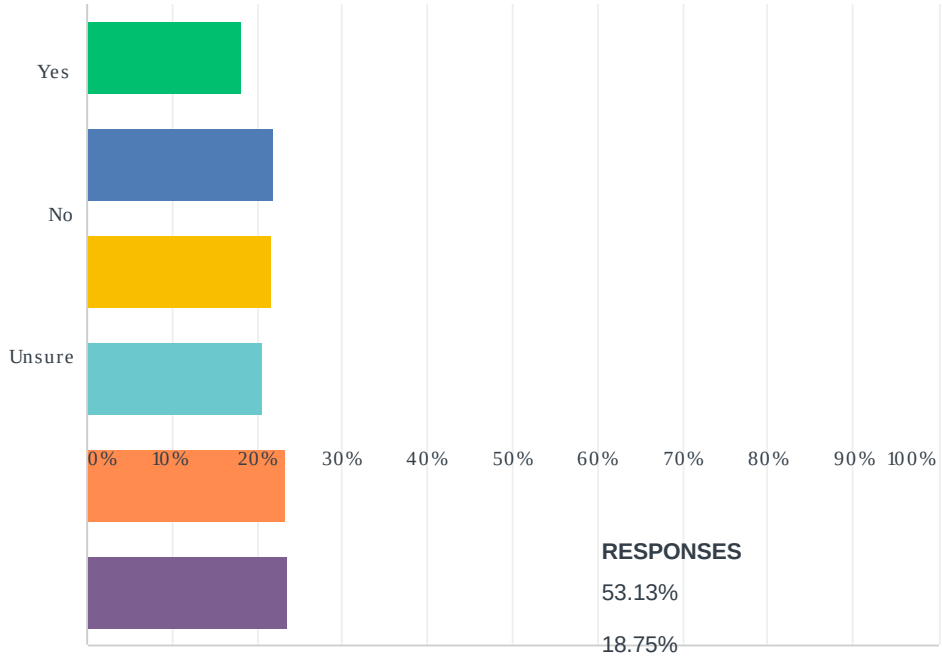
Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
4 months	10.71%	24
8 months	16.52%	37
12 months	25.45%	57
16 months	38.39%	86
No preference	5.80%	13
I don't want to complete a work placement as part of my degree	3.13%	7
TOTAL		224

Q12 Would you be interested in completing multiple work term placements as part of your degree?

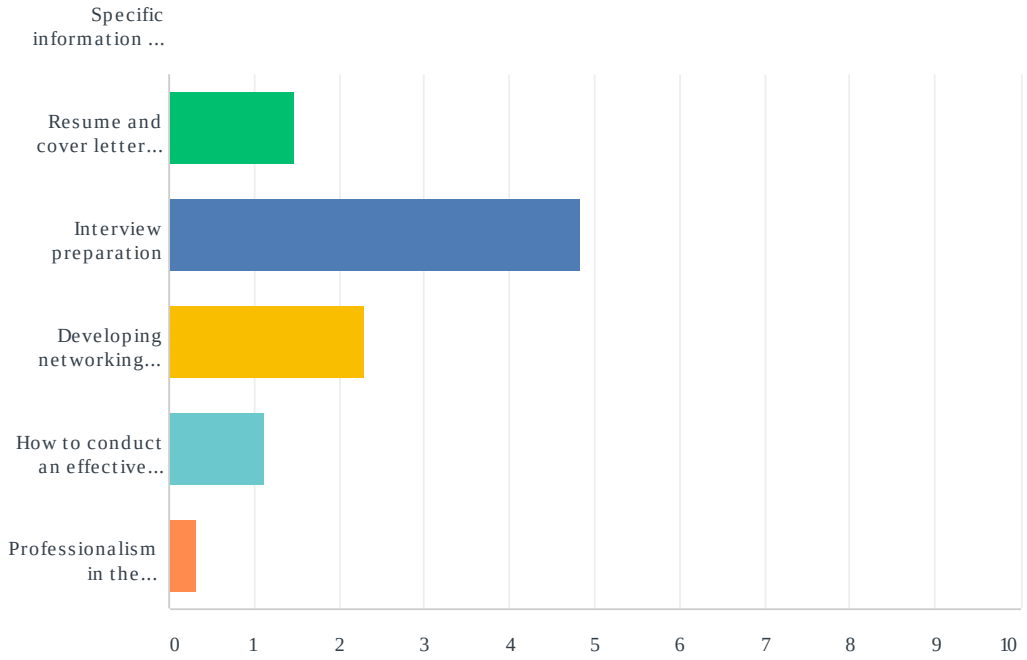
Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	53.13%	119
No	18.75%	42
Unsure	28.13%	63
TOTAL		224

Q13 Please indicate how important the following career services are to you.

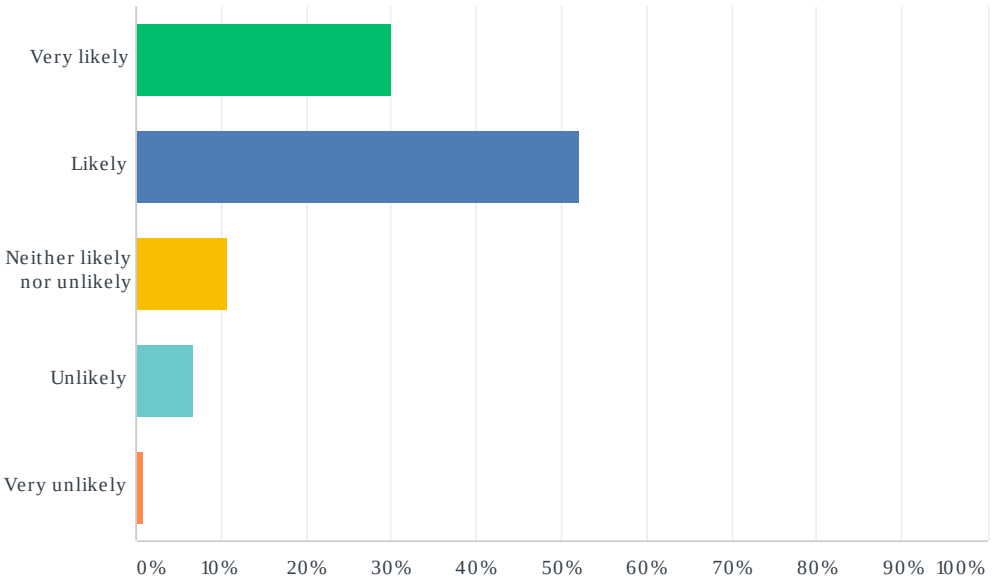
Answered: 224 Skipped: 0



	EXTREMELY IMPORTANT	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNSURE	TOTAL	WEIGHTED AVERAGE
Specific information on career options for my program	47.49% 104	34.70% 76	12.79% 28	2.28% 5	2.28% 5	0.46% 1	219	1.79
Resume and cover letter writing	30.14% 66	34.25% 75	25.11% 55	8.22% 18	2.28% 5	0.00% 0	219	2.18
Interview preparation	32.42% 71	36.53% 80	16.89% 37	10.96% 24	3.20% 7	0.00% 0	219	2.16
Developing networking skills	39.91% 87	32.11% 70	16.97% 37	6.42% 14	3.67% 8	0.92% 2	218	2.05
How to conduct an effective job search	29.95% 65	31.34% 68	22.58% 49	10.14% 22	5.07% 11	0.92% 2	217	2.32
Professionalism in the workplace	27.27% 60	35.00% 77	23.64%	5.00%	7.73%	1.36%	220	2.35

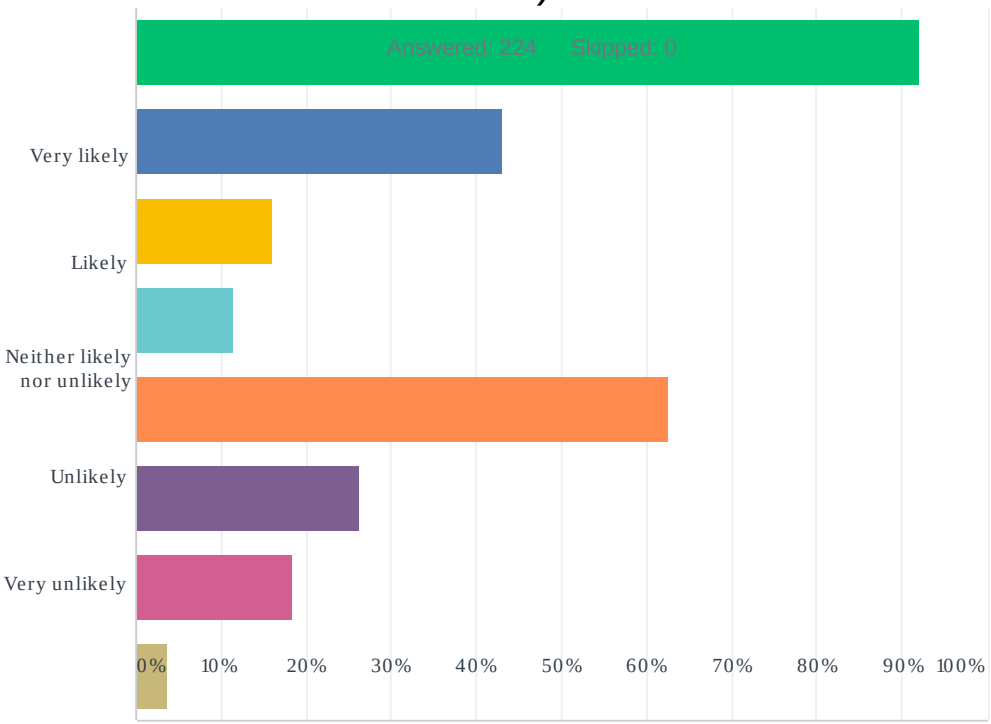
Q14 How likely are you to participate in workshops offered outside of class time related to your career development and employment (example: how to write a resume, practicing interview skills, learning about what I can do with my degree, etc.)?

Answered: 224 Skipped: 0



ANSWER CHOICES	RESPONSES	
Very likely	14.73%	33
Likely	48.21%	108
Neither likely nor unlikely	22.77%	51
Unlikely	11.16%	25
Very unlikely	3.13%	7
TOTAL		224

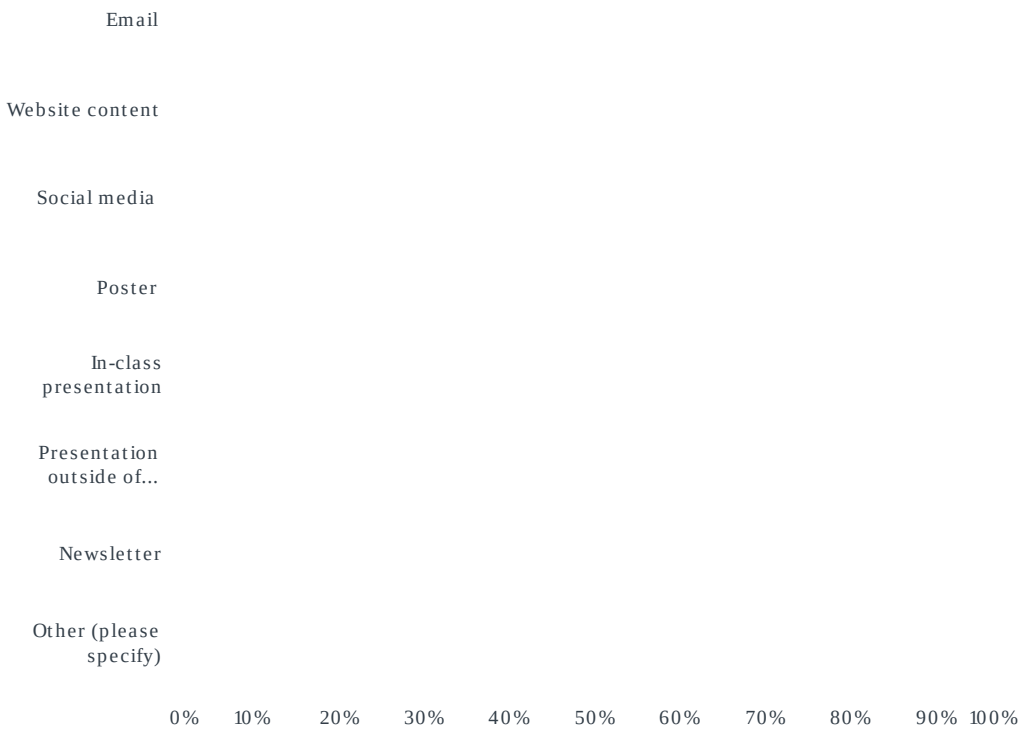
Q15 How likely are you to use online resources or tutorials related to your career development and employment (example: how to write a resume, practicing interview skills, learning about what I can do with my degree, etc.)?



ANSWER CHOICES	RESPONSES	
Very likely	29.91%	67
Likely	51.79%	116
Neither likely nor unlikely	10.71%	24
Unlikely	6.70%	15
Very unlikely	0.89%	2
TOTAL		224

Q16 How would you prefer to receive information about co-op and internship? Please check all that apply.

Answered: 221 Skipped: 3

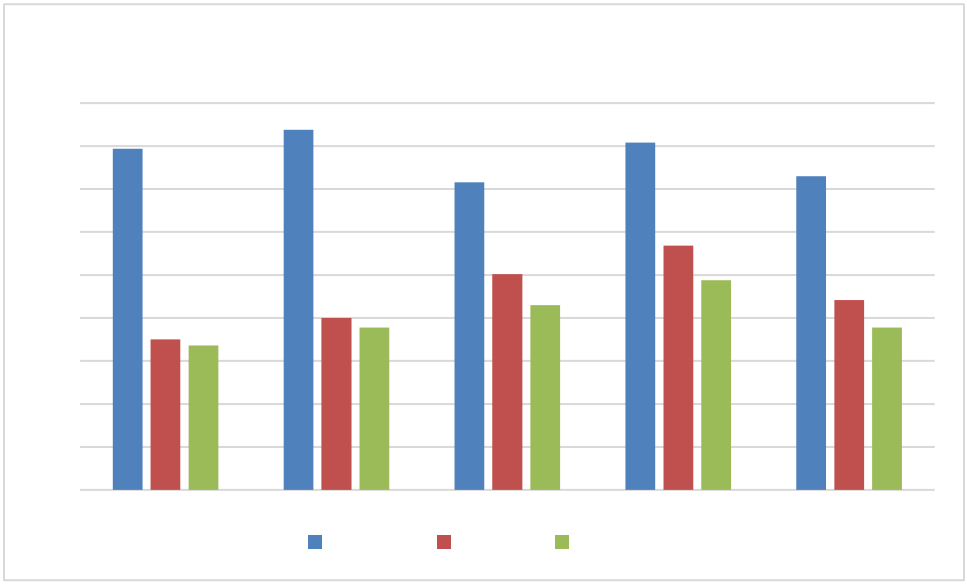


ANSWER CHOICES	RESPONSES	
Email	91.86%	203
Website content	42.99%	95
Social media	15.84%	35
Poster	11.31%	25
In-class presentation	62.44%	138
Presentation outside of class	26.24%	58
Newsletter	18.10%	40
Other (please specify)	3.62%	8

Total Respondents: 221

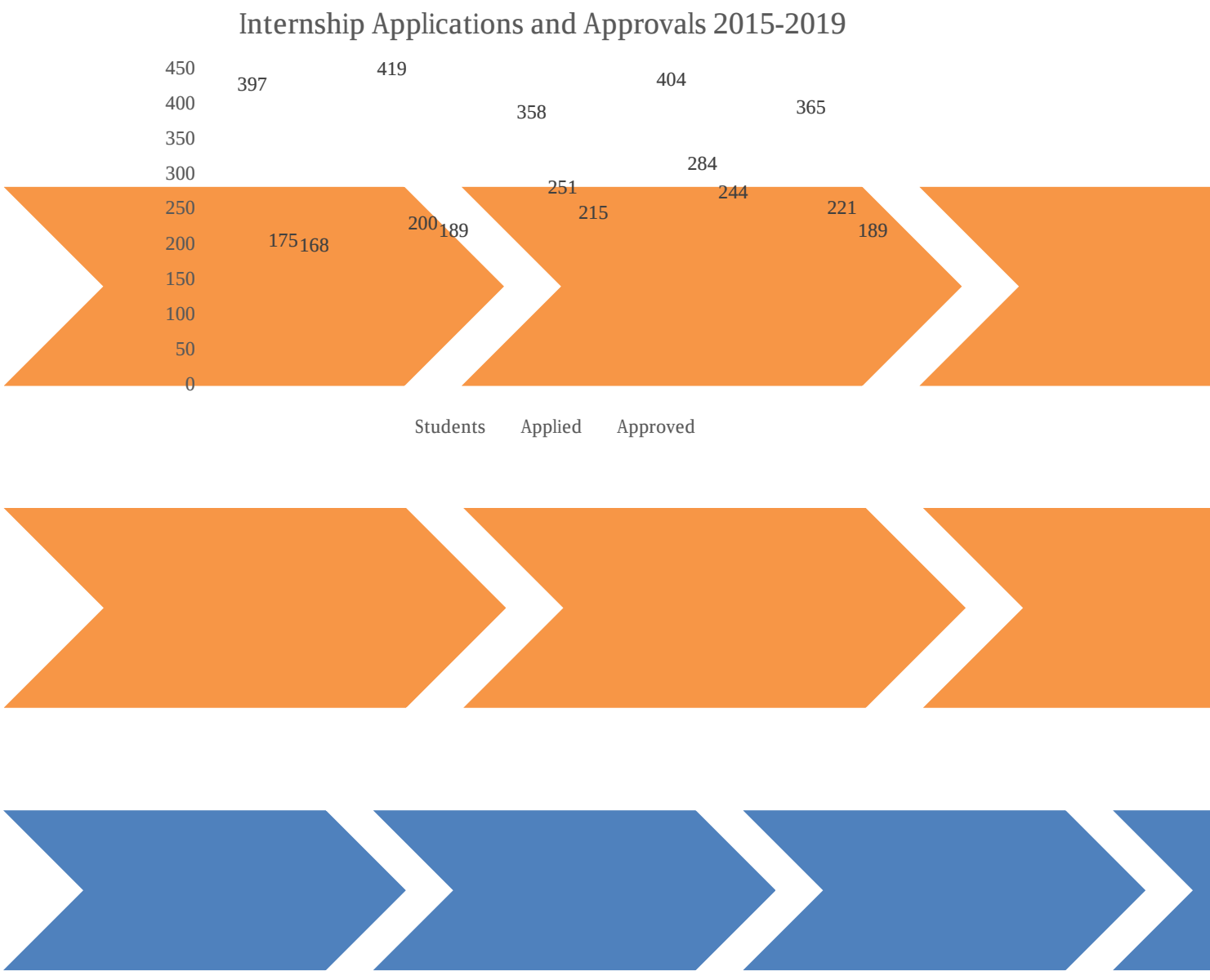
Q17 Please share any additional comments you have about what you would like to see in a co-op/internship program or as part of career services for Engineering students.

Answered: 88 Skipped: 136



Appendix 3 - Engineering Professional Internship Program Application and Admission Statistics

This figure depicts the number of students eligible to participate in the Engineering Professional Internship Program (third year students), followed by those who applied and finally those who were approved by the College of Engineering to participate (met all eligibility criteria).



Appendix 4 - Engineering Co-op Internship Program Student Participation Process

Appendix 5 - Work-Integrated Learning Programs Across Post-secondary Institutions (Engineering)

Institution	Co-op Alt.	Co-op OR Internship	Accredited through CEWIL	Staff Resources (Coordinators)	Placement Statistics	Admission Criteria	Admission/ Program Fee	Tuition Fees	Placement Options
University of Regina	X	X	X	3.5 coordinators	~251	After completion of 3 academic terms for co-op; must complete 7 terms before internship		Co-op fee: $895.00 Internship fee: 15 credit hours based on faculty of student plus Students' Union Fees	Several 4 month terms; one 16 month placement
University of Alberta	X		X	13 coordinators	~1,800/year (not separate students)	Year 1		$900 (summer term); $1000 (fall/winter terms)	Up to 20 months of work experience (4 month terms)
University of Calgary		X		5 coordinators	~487 placements	Completed all courses in first 3 years of program	$50	$423.00 (4 months, Canadian); $479.10 (4 months, International	4, 8, 12, 16 month terms
University of British Columbia	X		X	10 coordinators		Must have 2nd or 3rd year standing	$247 (Co-op Workshop Fee)	$759.75 (does not include student fees)	4, 8, 12 month terms
University of Victoria	X		X	9 coordinators	~750 students per term	Mandatory		$351.50 x 8 installments (Canadian); $609.02 x 8 installments (International)	4 month terms (total of 4 possible and grants co-op designation, min. of 2 are required)
University of Manitoba		X	X	1 Business/Development Consultant 4 coordinators	~535 work term placements	Completed 12 courses before first work term		$386.06 per work term	4-16 month options (4 and 8 called co-op, 12 and 16 called internship)
University of Waterloo	X		X	Unable to determine	Unable to determine	Year 1		$729 per work term; $14 work report-marking fee per term	4 month terms (total number varies based on program)
Western University		X		1 Career Services Officer 1 Career Services Assistant 2 Employer Relations Specialists	Over 200 interns Over 100 co-ops	Term 2 of Year 1 for co-op; must complete 3 years of study for internship	$100	Co-op: $100 for student sourced; $300 for Western sourced Internship: $2276.83 (Canadian); $5700.67 (Intl)	Summer co-op (4 months); Internship (12-16 months)
McMaster University		X	X	7 Career Development and Relationship Mgrs	300-400 per manager	Can join anytime throughout degree	$100 (per academic year)	$300 (4 months)	4, 8, 12, 16 month terms

Source: Search of institution websites.

Appendix 6 - Co-op Internship Program Preparation Course Learning Outcomes

At the end of the Introduction to Co-op Internship session, students will:

1. Understand the differences between co-operative education and internships and the reflective learning process.
2. Understand the recruitment process associated with securing a co-op or internship work placement.
3. Be knowledgeable about the benefits of taking on a co-op or internship placement through a formal, institutional program and understand the criteria associated with the co-op internship program.
4. Be aware of the career and employment supports available through the College of Engineering and the Student Employment and Career Centre.

At the end of the Career Development and Reflective Learning session, students will:

1. Understand the importance of reflective learning as a component of their career development.
2. Appreciate and actively engage in the reflective learning process.
3. Be aware of tools and strategies to employ in their career development.

At the end of the Writing Effective Cover Letters and Resumes session, students will:

1. Understand the purpose and structure of a cover letter and its role in an application for employment.
2. Understand the difference between the three formats of a resume and determine which format best suits their unique needs.
3. Be able to develop achievement statements to concisely articulate and present relevant information in both cover letter and resume documents.

At the end of The Job Search Process, Networking and LinkedIn session, students will:

1. Understand the steps involved in conducting an effective job search including reflection on personal career goals, industry and employer research, preparation of job search documents, application processes, interviewing and offer evaluation.
2. Understand the role of networking as part of the job search process and be familiar with strategies to network both on- and off-line.
3. Be able to develop an authentic introduction and practice strategies to make a good first impression.
4. Have an awareness of professional etiquette expectations when engaged in networking activities.
5. Understand how to create an effective LinkedIn profile and be aware of strategies to leverage LinkedIn during the job search process.

At the end of the Ace the Interview session, students will:

1. Have an enhanced understanding of the interview process and various interview formats.
2. Have learned and practiced techniques to effectively answer some common interview questions.

3. Be aware of strategies to implement when answering tricky interview questions.

At the end of the Co-op Internship Outgoing Orientation Session, students will:

1. Be aware of how to make the most of their work placement opportunity.
2. Understand expectations with respect to reporting requirements for the co-op or internship program.
3. Understand strategies to implement when transitioning from school to work and back.

Engineering Co-op Internship Program Work Placement Learning Plan

This learning plan is to be completed by the student and their workplace supervisor. You are encouraged to created 4-6 goals that you hope to accomplish over the course of your work placement. These goals should be specific, measurable, action-oriented, realistic and timely. You are expected to revisit your learning plan at various points throughout your work placement and to keep it up-to-date. Your goals may shift and change, which is all part of the learning experience.

Learning Goal Examples: I want to learn.... I want to become proficient in...	**Strategy** Examples: I will learn by... I will achieve this by....	**Evidence of Success** Examples: I will know I am successful when... I will know I have achieved this goal..	**Target Date**

Student's Name Supervisor's Name Date

Engineering Co-op Internship Program Final Employer Evaluation

The University of Saskatchewan's Engineering Co-op Internship Program is designed to provide students with work-integrated learning opportunities that allow for personal and professional development within a professional engineering setting. This final employer evaluation is instrumental in providing the co-op student/intern with constructive feedback on their performance in the workplace and outlining areas for development. The National Association of Colleges and Employers Career Readiness Competencies are used as the foundation of this evaluation.

This evaluation should be completed by the co-op student/intern's direct supervisor or the person who can best assess the co-op student/intern's performance. **Please ensure that this evaluation is reviewed with the co-op student/intern.**

It is the co-op student/intern's responsibility to submit this completed evaluation through the 'Reporting' tab on the internship website. Should you have any questions, please contact (306) 966-5391.

Company:

Co-op Student/Intern Name:

Position:

Work Term Dates:

Supervisor's Name and Title:

Critical Thinking/Problem Solving

The co-op student/intern uses sound reasoning to analyze issues, make decisions and find solutions to problems.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern is able to obtain, interpret and use knowledge, facts and data in this process.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Oral/Written Communication

The co-op student/intern articulates thoughts and ideas clearly and effectively in written and oral forms to colleagues within the workplace and/or external stakeholders.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern has public speaking skills, is able to write memos and technical reports in a clear and effective manner.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Teamwork/Collaboration

The co-op student/intern builds collaborative relationships with colleagues and stakeholders.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern is able to work within a team environment and can negotiate and manage conflict.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Information Technology Application

The co-op student/intern is able to use appropriate technology to accomplish a given task.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern demonstrates effective adaptability to new and emerging technologies.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Leadership

The co-op student/intern leverages the strengths of others to achieve common goals and uses interpersonal skills to coach and develop others.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern is able to assess and manage relationships with others.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern is able to organize, prioritize and delegate work.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Global/Intercultural Fluency

The co-op student/intern demonstrates openness, inclusiveness, sensitivity and the ability to interact respectfully with all people and understand individuals' differences.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Professionalism/Work Ethic

The co-op student/intern demonstrates accountability and effective work habits (including punctuality, working productively with others, time workload management).

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern demonstrates integrity and ethical behavior and acts responsibly in the interests of others.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

The co-op student/intern is able to learn from their mistakes.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Career Management

The co-op student/intern is able to identify and articulate their skills, strengths, knowledge and experience relevant to their internship position.

4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Please provide any written feedback, commenting on the co-op student/intern's overall performance.

Reflecting back on this co-op/student intern's work term, do you feel they were adequately prepared for the workplace upon the commencement of their employment? Yes / No

If no, what knowledge, skills and/or abilities were missing?

Would you expect to have a position available for this student once they graduate? Yes / No

If yes, have you extended an offer of employment to the student? Yes / No

Has the student intern accepted the offer? Yes / No

Would you like to hire co-op and internship students in the future? Yes / No

Co-op Student/Intern's Signature Date

Evaluated by (please print) Title/Department Date Signature

Engineering Co-op Internship Program Interim (4 month) Employer Evaluation

The University of Saskatchewan's Engineering Co-op Internship Program is designed to provide students with work-integrated learning opportunities that allow for personal and professional development within a professional engineering setting. This interim employer evaluation is instrumental in providing the co-op student/intern with constructive feedback on their performance in the workplace and outlining areas for development. The National Association of Colleges and Employers Career Readiness Competencies are used as the foundation of this evaluation.

This evaluation should be completed by the co-op student/intern's direct supervisor or the person who can best assess the co-op student/intern's performance. **Please ensure that this evaluation is reviewed with the co-op student/intern.**

Given that this is a 4 month assessment, there may not have been adequate opportunity to assess in all the categories provided. Please put "N/A" by those categories that may not be applicable.

A final evaluation must be completed in the final month of the work placement.

It is the co-op student/intern's responsibility to submit this completed evaluation through the 'Reporting' tab on the internship website. Should you have any questions, please contact (306) 966-5391.

Company:

Student Intern Name:

Position:

Work Term Dates:

Supervisor's Name and Title:

Critical Thinking/Problem Solving

The co-op student/intern uses sound reasoning to analyze issues, make decisions and find solutions to problems.

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The co-op student/intern articulates thoughts and ideas clearly and effectively in written and oral forms to colleagues within the workplace and/or external stakeholders.

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The co-op student/intern has public speaking skills, is able to write memos and technical reports in a clear and effective manner.

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Teamwork/Collaboration

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Information Technology Application

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Global/Intercultural Fluency

The co-op student/intern demonstrates openness, inclusiveness, sensitivity and the ability to interact respectfully with all people and understand individuals' differences.

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Career Management

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4 – Always, 3 – Often, 2 – Sometimes, 1 – Seldom, N/A – Not applicable

Reflecting back on this co-op student/intern's work term, do you feel they were adequately prepared for the workplace upon the commencement of their employment? Yes / No

If no, what knowledge, skills and/or abilities were missing?

Please provide any written feedback, commenting on the co-op student/intern's overall performance.

Co-op Student/Intern's Signature Date

Evaluated by (please print) Title/Department Date Signature

College of Engineering
Co-op Program
Proposed Statement of Revenues and Expenditures

Enrollment			**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
4 Month			25	30	30	40	40
8 Month			25	30	35	45	45
12 Month			25	30	35	45	45
16 Month			75	85	100	120	120
Total Enrollment			**150**	**175**	**200**	**250**	**250**
Enrollment Adjustment		0%					
Revenue		**Rate**					
Program Fee	No	-	-	-	-	-	-
Prep Course	Basic	243.20	36,480	40,432	46,208	57,760	57,760
Tuition Rate	Special Rate	1,000.00					
Tuition Inflation		0.0%					
4 Month			*25,000*	*30,000*	*30,000*	*40,000*	*40,000*
8 Month			*50,000*	*60,000*	*70,000*	*90,000*	*90,000*
12 Month			*75,000*	*90,000*	*105,000*	*135,000*	*135,000*
16 Month			*300,000*	*340,000*	*400,000*	*480,000*	*480,000*
Total Tuition			450,000	520,000	605,000	745,000	745,000
Total Revenue			**486,480**	**560,432**	**651,208**	**802,760**	**802,760**
Expenses							
Salary Expenses							
Senior Coordinator (ASPA II)			81,390	83,018	84,678	86,372	88,099
Junior Coordinator (ASPA I)			62,503	63,753	65,028	66,329	67,655
Engineers In Residence	*Students/EIR*	*10*	100,500	123,012	139,414	177,752	181,307
Job Development Coordinator			-	-	79,338	80,925	82,543
Benefits			28,185	30,389	43,219	46,928	47,866
Subtotal Salary Expenditures			*272,578*	*300,172*	*411,677*	*458,305*	*467,471*
Non-Salary Expenses							
Site Visits	Efficiency	No	45,000	52,500	60,000	75,000	75,000
Memberships and Fees							
CareerLink database			2,500	2,500	3,100	3,900	4,900
National Association of Colleges & Employers			105	105	645	645	645
CEIA Annual Membership			350	360	370	380	390
CEWIL Canada Annual Membership			350	360	370	380	390
Communications and Promotion							
Advertising and Promotion			500	600	720	860	1,030
Banner stand			385	-	-	500	-
Leather portfolio cases for placed students			5,000	5,800	6,600	8,300	8,300
Display case/board of placed students and photos			3,500	500	630	790	990
Staff Professional Development							
Registration Fees (Conference and Workshop)			2,000	2,000	3,000	3,000	3,000
Travel, Meals, Hotel			4,000	4,000	6,000	6,000	6,000
Hospitality							
Working Lunches			500	550	610	670	740
Subtotal Non-Salary Expenses			*64,190*	*69,275*	*82,045*	*100,425*	*101,385*
Total Expenses			**336,768**	**369,447**	**493,722**	**558,730**	**568,856**
Revenue Less Expenses			**149,712**	**190,985**	**157,486**	**244,030**	**233,904**

Engineering Co-op Internship Program

The Engineering **Co-op Internship Program** is a full-time, paid work-integrated learning placement, which includes between four and twenty months of engineering work experience in industry. By participating in the co-op internship program, students apply the theoretical knowledge acquired throughout their undergraduate studies to a practical and challenging workplace environment.

Students taking on a work placement through this option are enrolled in a series of four-month academic courses while on placement. Co-op students and interns earn a competitive salary, may receive benefit packages, and earn vacation pay, all while maintaining their full-time student status.

Participation in the program provides students with the opportunity to develop technical skills in addition to essential skills in the areas of communication, interpersonal relations, report writing, oral presentations, and supervision - all attributes that allow College of Engineering graduates to better market themselves in an increasingly competitive job market.

Participating in the co-op internship program may extend a student's degree completion time by a minimum of one year.

Eligibility Criteria

To be eligible to participate in the Co-op Internship Program, undergraduate students registered in the College of Engineering must

- Be enrolled in their second or third year of their Bachelor of Science in Engineering program at the time of application to the co-op internship program;
- Have completed at least two years of their Bachelor of Science in Engineering program at the time of first work placement;
- Have attained a 65% sessional weighted average in the most recent academic year;
- Return to their academic studies with at least 12 credit units of coursework remaining;
- Must not be on faculty action prior to leaving on placement; and
- Must not receive a faculty action while on placement.

Please note that registration in CE 495.6, CHE 495.6, CME 495.6, EE 495.6, ENVE 495.6, EP 495.6, GE 495.6, GEOE 495.6, or ME 495.6 disqualifies a student's eligibility for a January start date.

Application Process

Prospective students interested in participating in the Co-op Internship Program must submit an application via **CareerLink** during the required timelines each year. Students are encouraged to submit an application if they currently meet the eligibility criteria or will likely meet the criteria in the upcoming academic year.

Once an application has been submitted, the College of Engineering will initially review applications between September and October each year. Once reviewed, applicants will receive an email notifying them of the status of their application.

If an application is approved, applicants will be informed that they must register for and complete the Co-op Internship Preparation Course (ECIP 200.1). If an application is declined, the candidate will be notified by email.

To be considered for a January 2021, May 2021, or September 2021 placement, prospective students must submit an application between September 1-30, 2020.

It is recommended that students take on their first work placement following their second year of studies and take on subsequent work placements mid-way through or following completion of their third year of studies. Prospective students are strongly encouraged to consult an Academic Advisor in the College of Engineering.

For further information on policies, procedures, and deadlines, please visit the **Co-op Internship website**.

Requirements

Students must complete ECIP 200.1 and a minimum of three of the following courses, in addition to the regular requirements for a Bachelor of Science in Engineering (B.E.) program:

Required Courses (1 credit unit)

- **ECIP 200.1:** Introduction to the Engineering Co-op Internship Program

Elective Courses (minimum of 3 courses)

- **ECIP 400.0:** Engineering Co-op Internship Work Placement I
- **ECIP 401.0:** Engineering Co-op Internship Work Placement II

- **ECIP 402.0:** Engineering Co-op Internship Work Placement III
- **ECIP 403.0:** Engineering Co-op Internship Work Placement IV
- **ECIP 404.0:** Engineering Co-op Internship Work Placement V

All co-op placements are 4 months in duration and all internship placements are either 8, 12 or 16 months in duration. Students who secure work placements in the Co-op Internship Program will be registered in between one and five ECIP-series courses, each one being four months in duration.

Students are required to submit at least one written assignment for each 4-month work term placement. Assignments will be reviewed by staff within the College of Engineering and a grade of "pass" or "fail" assigned accordingly. The grade received on all assignments will appear on a student's academic transcript at the University of Saskatchewan. A student who fails one ECIP-series course will receive a failing grade in each of the courses and is deemed to have failed the co-op internship program.

Program Options

The Engineering Co-op Internship Program is a concentration available within the following programs:

- Bachelor of Science in Engineering (B.E.) – Chemical Engineering
- Bachelor of Science in Engineering (B.E.) – Civil Engineering
- Bachelor of Science in Engineering (B.E.) – Computer Engineering
- Bachelor of Science in Engineering (B.E.) – Electrical Engineering
- Bachelor of Science in Engineering (B.E.) – Engineering Physics
- Bachelor of Science in Engineering (B.E.) – Environmental Engineering
- Bachelor of Science in Engineering (B.E.) – Geological Engineering
- Bachelor of Science in Engineering (B.E.) – Mechanical Engineering

ECIP Course Descriptions

ECIP 200.1: Introduction to Engineering Co-op Internship Program

An introduction to work-integrated learning with a focus on co-operative education and internships. This course prepares students for work placements within the Engineering Co-op Internship program option. Topics include: career development, job search document preparation, the job search process, networking, interview preparation and workplace expectations and etiquette. This course is required prior to securing a work placement in the Engineering Co-op Internship Program.

ECIP 400.0: Engineering Co-op Internship Program Work Placement I

This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

ECIP 401.0: Engineering Co-op Internship Program Work Placement II

This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

ECIP 402.0: Engineering Co-op Internship Program Work Placement III

This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

ECIP 403.0: Engineering Co-op Internship Program Work Placement IV

This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

ECIP 404.0: Engineering Co-op Internship Program Work Placement V

This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

Note: The College of Engineering is requesting that international student tuition differentials be waived for ECIP 400.0, ECIP 401.0, ECIP 402.0, ECIP 403.0, and ECIP 404.0. Given that these courses will have a special tuition rate assigned to them ($1,000 CAD), it would be cost prohibitive for international students to register in these courses given the existing international differential rate (multiplier) of 2.7. The College of Engineering would like to request that the Academic Programs Committee of Council and Provost's Advisory Committee consider this request.

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 200.1**

   2.2 Title of course: **Introduction to Engineering Co-op Internship Program**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 **T1 or T2** T1 and T2

   2.6 Prerequisite: **Completion of first year courses for Bachelor of Science in Engineering degree program.**

   2.7 Calendar description: **This course is required prior to securing a work placement in the Engineering Co-op Internship Program. The course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Begin the reflective process to articulate career and employment goals.**
   2. **Understand the co-op internship recruitment process and be prepared to participate in all steps of recruitment.**
   3. **Be prepared to take on a work placement to put engineering knowledge and skills into practice in a professional setting.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**

- **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **None**
   Course(s) for which this course will be a prerequisite? **ECIP 400.0, ECIP 401.0, ECIP 402.0, ECIP 403.0, ECIP 404.0**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   An introduction to work-integrated learning with a focus on co-operative education and internships. This course prepares students for work placements within the Engineering Co-op Internship program option. Topics include: career development, job search document preparation, the job search process, networking, interview preparation and workplace expectations and etiquette.

8. Enrolment.
   Expected enrollment: **200 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **Kristen Cutting**
How does the department plan to handle the additional teaching or administrative workload? **N/A**
Are sufficient library or other research resources available for this course? **N/A**
Are any additional resources required (library, audio-visual, technology, etc.)? **N/A**

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **200.1**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **1 academic credit units**; **1 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Tuition Category 7 for one credit unit**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.
N/A Academic Credit Applied

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 200.1 Introduction to Co-op Internship**
Course Short Title (maximum 30 characters) **ECIP 200.1 Introduction to Co-op Internship**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [‘ " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
This course is introduces students to co-operative education and prepares students for a work placement through the Engineering Co-op Internship Program. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: N/A
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **N/A**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

1) If a student has received credit for the equivalent course, s/he should not be eligible to register for the course for which this form is being completed.
2) The equivalent course must be able to be used in place of the course for which this form is being completed when the system does prerequisite checking and degree audit checking.

Colleges must specify how DegreeWorks should handle equivalent courses with unequal credit units through the University Course Challenge process. If this is not specified, DegreeWorks will automatically enforce the following:

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will fulfill the 6 credit unit requirement and the student will not have to complete another 3 credit units toward the overall number of required credit units for the program.
- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

Mutually-Exclusive Courses
These courses are not entirely equivalent, but possess similar content. Consequently, you may wish to have SiRIUS prevent students from receiving credit for both courses. Please list any courses that are mutually-exclusive with this course:

Please note that SiRIUS cannot enforce a situation where the exclusion goes only one way.

Information For Display In The Catalogue Only
Please refer to the Key to Course Descriptions at:
http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 400.0**

   2.2 Title of course: **Engineering Co-op Internship Program Work Placement I**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 T1 and T2 **T1 or T2 or T3 (Spring/Summer)**

   2.6 Prerequisite: **ECIP 200.1**

   2.7 Calendar description: **The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Apply the theoretical knowledge acquired during undergraduate studies in a practical and challenging workplace environment.**
   2. **Develop and articulate personal learning goals during the work placement.**
   3. **Engage in reflective conversations related to defined learning goals and solicit feedback from workplace supervisor on performance and learning.**
   4. **Participate in and learn from the feedback discussed with the employer as part of the interim and final performance evaluation while on work placement.**
   5. **For Co-op and Intern Students (all placement term lengths): Complete a written reflection assignment and receive feedback from program staff.**
   6. **Engage in post-work experience reflective discussions and receive support for re-integration to the College of Engineering.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**
   - **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **EPIP 401.0**
   Course(s) for which this course will be a prerequisite? **ECIP 401.0, ECIP 402.0, ECIP 403.0, ECIP 404.0**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

8. Enrolment.
   Expected enrollment: **150 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None.**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **No instructor required – student work placement course.**
How does the department plan to handle the additional teaching or administrative workload?
Are sufficient library or other research resources available for this course?
Are any additional resources required (library, audio-visual, technology, etc.)?

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **400.0**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **0 academic credit units**; **15 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Special Category $1,000**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.

NOAC No Academic Credit

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 400.0 Work Placement I**
Course Short Title (maximum 30 characters) **ECIP 400.0 Work Placement I**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [' " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: **EPIP 401.0**
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **ECIP 200.1**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Registration in this course is only open to students in the Engineering Co-op Internship Program.
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

1) If a student has received credit for the equivalent course, s/he should not be eligible to register for the course for which this form is being completed. **EPIP 401.0**
2) The equivalent course must be able to be used in place of the course for which this form is being completed when the system does prerequisite checking and degree audit checking.

Colleges must specify how DegreeWorks should handle equivalent courses with unequal credit units through the University Course Challenge process. If this is not specified, DegreeWorks will automatically enforce the following:

UNIVERSITY OF SASKATCHEWAN

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will fulfill the 6 credit unit requirement and the student will not have to complete another 3 credit units toward the overall number of required credit units for the program.
- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

Mutually-Exclusive Courses
These courses are not entirely equivalent, but possess similar content. Consequently, you may wish to have SiRIUS prevent students from receiving credit for both courses. Please list any courses that are mutually-exclusive with this course:

Please note that SiRIUS cannot enforce a situation where the exclusion goes only one way.

Information For Display In The Catalogue Only
Please refer to the Key to Course Descriptions at:
http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 401.0**

   2.2 Title of course: **Engineering Co-op Internship Program Work Placement II**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 T1 and T2 **T1 or T2 or T3 (Spring/Summer)**

   2.6 Prerequisite: **ECIP 200.1, ECIP 400.0**

   2.7 Calendar description: **The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Apply the theoretical knowledge acquired during undergraduate studies in a practical and challenging workplace environment.**
   2. **Develop and articulate personal learning goals during the work placement.**
   3. **Engage in reflective conversations related to defined learning goals and solicit feedback from workplace supervisor on performance and learning.**
   4. **Participate in and learn from the feedback discussed with the employer as part of the interim and final performance evaluation while on work placement.**
   5. **For Intern Students (eight, twelve and sixteen month placement length): Complete a written, technical work experience report and receive feedback from program staff.**
   6. **Engage in post-work experience reflective discussions and receive support for re-integration to the College of Engineering.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**
   - **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **EPIP 402.0**
   Course(s) for which this course will be a prerequisite? **ECIP 402.0, ECIP 403.0, ECIP 404.0**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

8. Enrolment.
   Expected enrollment: **150 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None.**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **No instructor required – student work placement course.**
How does the department plan to handle the additional teaching or administrative workload?
Are sufficient library or other research resources available for this course?
Are any additional resources required (library, audio-visual, technology, etc.)?

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **401.0**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **0 academic credit units**; **15 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Special Category $1,000**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.

NOAC No Academic Credit

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 401.0 Work Placement II**
Course Short Title (maximum 30 characters) **ECIP 401.0 Work Placement II**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [‘ " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: **EPIP 402.0**
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **ECIP 200.1, ECIP 400.0**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Registration in this course is only open to students in the Engineering Co-op Internship Program.
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

1) If a student has received credit for the equivalent course, s/he should not be eligible to register for the course for which this form is being completed. **EPIP 402.0**
2) The equivalent course must be able to be used in place of the course for which this form is being completed when the system does prerequisite checking and degree audit checking.

Colleges must specify how DegreeWorks should handle equivalent courses with unequal credit units through the University Course Challenge process. If this is not specified, DegreeWorks will automatically enforce the following:

UNIVERSITY OF SASKATCHEWAN

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will fulfill the 6 credit unit requirement and the student will not have to complete another 3 credit units toward the overall number of required credit units for the program.
- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

Mutually-Exclusive Courses
These courses are not entirely equivalent, but possess similar content. Consequently, you may wish to have SiRIUS prevent students from receiving credit for both courses. Please list any courses that are mutually-exclusive with this course:

Please note that SiRIUS cannot enforce a situation where the exclusion goes only one way.

Information For Display In The Catalogue Only
Please refer to the Key to Course Descriptions at:
http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 402.0**

   2.2 Title of course: **Engineering Co-op Internship Program Work Placement III**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 T1 and T2 **T1 or T2 or T3 (Spring/Summer)**

   2.6 Prerequisite: **ECIP 200.1, ECIP 400.0, ECIP 401.0**

   2.7 Calendar description: **The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Apply the theoretical knowledge acquired during undergraduate studies in a practical and challenging workplace environment.**
   2. **Develop and articulate personal learning goals during the work placement.**
   3. **Engage in reflective conversations related to defined learning goals and solicit feedback from workplace supervisor on performance and learning.**
   4. **Participate in and learn from the feedback discussed with the employer as part of the interim and final performance evaluation while on work placement.**
   5. **For Intern Students (eight, twelve and sixteen month placement length): Complete a written, technical work experience report and receive feedback from program staff.**
   6. **Engage in post-work experience reflective discussions and receive support for re-integration to the College of Engineering.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**
   - **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **EPIP 403.0**
   Course(s) for which this course will be a prerequisite? **ECIP 403.0, ECIP 404.0**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

8. Enrolment.
   Expected enrollment: **150 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None.**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **No instructor required – student work placement course.**
How does the department plan to handle the additional teaching or administrative workload?
Are sufficient library or other research resources available for this course?
Are any additional resources required (library, audio-visual, technology, etc.)?

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **402.0**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **0 academic credit units**; **15 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Special Category $1,000**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.

NOAC No Academic Credit

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 402.0 Work Placement III**
Course Short Title (maximum 30 characters) **ECIP 402.0 Work Placement III**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [‘ " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: **EPIP 403.0**
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **ECIP 200.1, ECIP 400.0, ECIP 401.0**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Registration in this course is only open to students in the Engineering Co-op Internship Program.
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

1) If a student has received credit for the equivalent course, s/he should not be eligible to register for the course for which this form is being completed. **EPIP 403.0**
2) The equivalent course must be able to be used in place of the course for which this form is being completed when the system does prerequisite checking and degree audit checking.

Colleges must specify how DegreeWorks should handle equivalent courses with unequal credit units through the University Course Challenge process. If this is not specified, DegreeWorks will automatically enforce the following:

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will fulfill the 6 credit unit requirement and the student will not have to complete another 3 credit units toward the overall number of required credit units for the program.
- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

Mutually-Exclusive Courses
These courses are not entirely equivalent, but possess similar content. Consequently, you may wish to have SiRIUS prevent students from receiving credit for both courses. Please list any courses that are mutually-exclusive with this course:

Please note that SiRIUS cannot enforce a situation where the exclusion goes only one way.

Information For Display In The Catalogue Only
Please refer to the Key to Course Descriptions at:
http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 403.0**

   2.2 Title of course: **Engineering Co-op Internship Program Work Placement IV**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 **T1 or T2 or T3 (Spring/Summer)** T1 and T2

   2.6 Prerequisite: **ECIP 200.1, ECIP 400.0, ECIP 401.0, ECIP 402.0**

   2.7 Calendar description: **The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Apply the theoretical knowledge acquired during undergraduate studies in a practical and challenging workplace environment.**
   2. **Develop and articulate personal learning goals during the work placement.**
   3. **Engage in reflective conversations related to defined learning goals and solicit feedback from workplace supervisor on performance and learning.**
   4. **Participate in and learn from the feedback discussed with the employer as part of the interim and final performance evaluation while on work placement.**
   5. **For Intern Students (eight, twelve and sixteen month placement length): Complete a written, technical work experience report and receive feedback from program staff.**
   6. **Engage in post-work experience reflective discussions and receive support for re-integration to the College of Engineering.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**
   - **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **EPIP 404.0**
   Course(s) for which this course will be a prerequisite? **ECIP 404.0**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

8. Enrolment.
   Expected enrollment: **150 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None.**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **No instructor required – student work placement course.**
How does the department plan to handle the additional teaching or administrative workload?
Are sufficient library or other research resources available for this course?
Are any additional resources required (library, audio-visual, technology, etc.)?

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **403.0**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **0 academic credit units**; **15 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Special Category $1,000**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.

NOAC No Academic Credit

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 403.0 Work Placement IV**
Course Short Title (maximum 30 characters) **ECIP 403.0 Work Placement IV**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [' " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: **EPIP 404.0**
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **ECIP 200.1, ECIP 400.0, ECIP 401.0, ECIP 402.0**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Registration in this course is only open to students in the Engineering Co-op Internship Program.
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

1) If a student has received credit for the equivalent course, s/he should not be eligible to register for the course for which this form is being completed. **EPIP 404.0**
2) The equivalent course must be able to be used in place of the course for which this form is being completed when the system does prerequisite checking and degree audit checking.

Colleges must specify how DegreeWorks should handle equivalent courses with unequal credit units through the University Course Challenge process. If this is not specified, DegreeWorks will automatically enforce the following:

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will fulfill the 6 credit unit requirement and the student will not have to complete another 3 credit units toward the overall number of required credit units for the program.
- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

Mutually-Exclusive Courses
These courses are not entirely equivalent, but possess similar content. Consequently, you may wish to have SiRIUS prevent students from receiving credit for both courses. Please list any courses that are mutually-exclusive with this course:

Please note that SiRIUS cannot enforce a situation where the exclusion goes only one way.

Information For Display In The Catalogue Only
Please refer to the Key to Course Descriptions at:
http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

New Course Proposal Form

This form can be used by any college which does not already have a course proposal form.

1. Approval by department head or dean: **Undergraduate Academic Programs Committee (Engineering)**

2. Information required for the Catalogue

   2.1 Label & Number of course: **ECIP 404.0**

   2.2 Title of course: **Engineering Co-op Internship Program Work Placement V**

   2.3 Total Hours: Lecture Seminar Lab Tutorial **Other**

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial **Other**

   2.5 Term in which it will be offered: T1 T2 **T1 or T2 or T3 (Spring/Summer)** T1 and T2

   2.6 Prerequisite: **ECIP 200.1, ECIP 400.0, ECIP 401.0, ECIP 402.0, ECIP 403.0**

   2.7 Calendar description: **The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.**

   2.8 Any additional notes

3. Rationale for introducing this course. **Replacing "Engineering Professional Internship Program (and associated courses) with "Co-op Internship Program" (concentration) in the Bachelor of Science in Engineering program.**

4. Learning Objectives for this course.

   1. **Apply the theoretical knowledge acquired during undergraduate studies in a practical and challenging workplace environment.**
   2. **Develop and articulate personal learning goals during the work placement.**
   3. **Engage in reflective conversations related to defined learning goals and solicit feedback from workplace supervisor on performance and learning.**
   4. **Participate in and learn from the feedback discussed with the employer as part of the interim and final performance evaluation while on work placement.**
   5. **For Intern Students (eight, twelve and sixteen month placement length): Complete a written, technical work experience report and receive feedback from program staff.**
   6. **Engage in post-work experience reflective discussions and receive support for re-integration to the College of Engineering.**

5. Impact of this course.
   Are the programs of other departments or Colleges affected by this course? **No**
   If so, were these departments consulted? (Include correspondence)
   Were any other departments asked to review or comment on the proposal?
   - **Notice of Intent presented to Planning and Priorities Committee of Council for feedback**
   - **Undergraduate Academic Programs Committee (Engineering)**
   - **Faculty Council (Engineering)**

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **None**
   Course(s) for which this course will be a prerequisite? **None**
   Is this course to be required by your majors, or by majors in another program? **No**

7. Course outline. **Yes**
   (Weekly outline of lectures or include a draft of the course information sheet.)
   This work placement will provide the student with the opportunity to apply theoretical engineering knowledge in a hands-on, practical work environment. Supervision and mentorship will be provided both within the workplace as well as from program staff at the University of Saskatchewan.

8. Enrolment.
   Expected enrollment: **150 undergraduate students in first year, growth each subsequent year**
   From which colleges? **College of Engineering**

9. Student evaluation. **Pass/Fail course. Reflective assignment required.**
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

10. Required text: **None.**
Include a bibliography for the course.

11. Resources.
Proposed instructor: **No instructor required – student work placement course.**
How does the department plan to handle the additional teaching or administrative workload?
Are sufficient library or other research resources available for this course?
Are any additional resources required (library, audio-visual, technology, etc.)?

12. Date of Implementation: **May 2020**
To be offered: **annually** biennially other

SESD: Course Creation Information Form

(version: November, 2015)

To be completed by the College following approval of the course.

Required information is grouped in appropriate blocks to correspond with the data fields of the student information system, SiRIUS. Course details will be reflected through the student self-service features of SiRIUS and are key to system and registration functionality. Information provided on this form will be used in collaboration with required information provided to the Academic Programs Committee of Council through Course Challenge. **For additional information about this form or SiRIUS, the Student Information System, contact Academic Services & Financial Assistance, SESD (phone Seanine at 1874).**

Main Block
Subject **ECIP**
Course Number **404.0**
Term from which this course will become effective: **2020-05**
Month: **May** Year: **2020**

Information Block
What is the academic college or school to which this course belongs? **College of Engineering**

What is the department or school that has jurisdiction over this course? **Dean's Office**

If there is a prerequisite waiver, who is responsible for signing it? **N/A**
D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

What is the academic credit unit weight of this course? **0 academic credit units**; **15 operational credit units**

Is this course supposed to attract tuition charges? If so, how much? (use tuition category) **Yes – Special Category $1,000**

Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form" (http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course-fees) **N/A**

Do you allow this course to be repeated for credit? **No**

How should this course be graded?
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage

(Grade options for instructor: grade of 0% to 100%, IP in Progress)

P – Pass/Fail

(Grade options for instructor: Pass, Fail, In Progress)

S – Special

(Grade options for instructor: NA – Grade Not Applicable) If other, please specify

Schedule Types

Schedule Types that can be used for sections that fall under this course:
(Indicate – highlight - all possible choices)

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	**Internship - General**	SUP	Teacher Supervision
IND	Independent Studies	TEL	Televised Class
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory (Dent Only)	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

Detailed Information

What attributes would be assigned to this course (would apply to all sections under the course)? Please highlight the attributes you want attached to the course

1. 0 Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). The NOAC attribute causes the system to roll 0 academic CUs to academic history for this course.

NOAC No Academic Credit

2. **For the College of Arts and Science only:** To which program type does this course belong?

FNAR	Fine Arts
HUM	Humanities
SCIE	Science
SOCS	Social Science
ARNP	No Program Type (Arts and Science)

Course Syllabus

Course Long Title (maximum 100 characters) **Engineering Co-op Internship Program 404.0 Work Placement V**
Course Short Title (maximum 30 characters) **ECIP 404.0 Work Placement V**
(Only letters and numbers can be used in both short and long course titles. No punctuation of any type is allowed [' " ; : , $ & @ ! ? / + - = % #( )]

Course Description
Course Description (please limit to 150 words or less)
The College of Engineering will register co-op and internship students in this 0-credit course for a 4-month work placement. This course is graded on a Pass/Fail basis.

Registration Information
Formerly: N/A
Permission required: N/A
Restriction(s): course only open to students in a specific college, program/degree, major, year in program

- Bachelor of Science in Engineering – Chemical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Civil Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Computer Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Electrical Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Environmental Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Engineering Physics with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Geological Engineering with Co-op Internship Program (concentration)
- Bachelor of Science in Engineering – Mechanical Engineering with Co-op Internship Program (concentration)

Prerequisite(s): course(s) that must be completed prior to the start of this course: **ECIP 200.1, ECIP 400.0, ECIP 401.0, ECIP 402.0, ECIP 403.0**
Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at the same time as this course **None**
Corequisite(s): course(s) that must be taken at the same time as this course: **None**
Notes: recommended courses, course repeat restrictions/content overlap, other additional course information
Registration in this course is only open to students in the Engineering Co-op Internship Program.
Exam Exempt
Yes

Equivalent Courses N/A
Please list the course(s) that you consider to be equivalent to this course. To be considered equivalent, the course must meet the following criteria:

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- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the credit units may be used to fulfill the 3 credit unit requirement.

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http://students.usask.ca/academics/registration/search-results.php
Catalogue Credit Units (e.g. 110.**6**)
0
Catalogue Term Hour Listing (e.g. **3L-2P**)
Not Applicable.

Additional Notes

AGENDA ITEM NO: 11.1

UNIVERSITY COUNCIL

NOMINATIONS COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: Vicki Squires, Chair, Nominations Committee of Council

DATE OF MEETING: November 21, 2019

SUBJECT: **Nomination to the University Review Committee**

DECISION REQUESTED:

It is recommended:

That Council approve the nomination of Allison Muri Department of English to serve as member of the University Review Committee for a six month term effective January 1, 2020.

DISCUSSION SUMMARY

To replace Laurie Hellsten on the University Review Committee.

ATTACHMENT(S):

1. USFA Collective Agreement – URC Terms of Reference
2. URC membership

Attachment 1. Terms of Reference

University of Saskatchewan Faculty Association Collective Agreement excerpt

15.8.4 University Review Committee.

The University shall have a review committee to consider tenure and other matters specifically assigned to this committee in the Agreement. The University Review Committee shall be made up of nine tenured or continuing employees plus the Vice-President Academic and Provost who shall be chair. The nine employees shall be nominated to this committee by the Nominations Committee of Council and approved by Council with the length of their term specified so as to ensure a reasonable turnover of membership. Employees shall not be nominated for membership if they have served on the University Review Committee in the previous three years or if they have agreed to serve on a College review committee in that academic year. In addition to those members mentioned above, two nominees of the Association shall serve as observers on the University Review Committee with voice, but without vote.

University Review Committee 2019 – 2020

Members

- Jim Basinger, Chair
  Interim Vice-Provost, Faculty Relations

- Mark Carter
  Law

- ~~Laurie Hellsten~~ (on leave)
  ~~Educational Psychology & Special Education~~
- Allison Muri Department of English

- Ravi Chibbar
  Plant Sciences

- Michael Bradley
  Physics & Engineering Physics

- Lorraine Holtslander
  Nursing

- Louise Humbert
  Kinesiology

- Dwight Makaroff
  Computer Science

- Moira Day
  Drama

- Marcel D'Eon
  Community Health and Epidemiology

Faculty Association Observers

- Maureen Fryett
- Gord Zello

Secretary

- Jacque Zinkowski, Faculty Relations Officer

AGENDA ITEM NO: 11.2

UNIVERSITY COUNCIL

NOMINATIONS COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: Vicki Squires, Chair, nominations committee of Council

DATE OF MEETING: November 21, 2019

SUBJECT: **Nomination to the Governance Committee of Council**

DECISION REQUESTED:

It is recommended:

That Council approve the nomination of Terry Wotherspoon, Department of Sociology, to serve as member of the governance committee of Council effective immediately until June 2022.

DISCUSSION SUMMARY

To replace Chelsea Willness on the governance committee.

ATTACHMENT(S):

1. Membership
2. Terms of Reference

GOVERNANCE COMMITTEE MEMBERSHIP

- Reviews Council bylaws including committee terms of reference; develops policies relating to student academic appeals and conduct.
- Membership comprises the Council chair, chair of planning and priorities committee, chair of the academic programs committee, to include three elected members of Council; presidents designate.

Council Members		
Mark Boland	Physics	2022
Stephen Urquhart (chair)	Chemistry	2020
~~Chelsea Willness~~	~~Edwards School of Business~~	~~2022~~
Terry Wotherspoon	Department of Sociology	2022
Ex officio Members		
Beth Bilson	University Secretary	
Jay Wilson	Chair, Council	
Susan Detmer	Chair, Academic Programs Committee	
Darrell Mousseau	Chair, Planning and Priorities Committee	
Other Members		
Tamara Larre	President's designate	2020
Student Members		
Regan Ratt-Misponas	USSU President	
Naheda Sahtout	GSA Representative	
Resource Members		
Jacquie Thomarat	Associate Secretary, Academic Governance	

GOVERNANCE COMMITTEE - TERMS OF REFERENCE

Membership

Three elected members of Council, one of whom will be Chair
The President's designate

Ex Officio
University Secretary
Chair of Council
Chair, Academic Programs Committee of Council
Chair, Planning and Priorities Committee of Council

Student Guests
One undergraduate student appointed by the U.S.S.U. (non-voting)
One graduate student appointed by the G.S.A. (non-voting)

Administrative Support
Office of the University Secretary

The Governance Committee is responsible for:

1) Reviewing the Bylaws of Council and recommending to Council revisions to the Bylaws.

2) Reviewing the Bylaws of Faculty Councils and recommending to Colleges and Schools changes to the Bylaws.

3) Reviewing the membership, powers, and duties of committees of Council and recommending to Council revisions to the membership, powers and duties of committees.

4) Recommending to Council regulations and procedures for Council and Council committees.

5) Advising Council with respect to its responsibilities and powers under *The University of Saskatchewan Act, 1995* and recommending to Council on proposed changes to the Act.

6) Nominating members and Chair of the Nominations Committee of Council.

7) Providing advice to the Chair of Council on the role of the Chair.

8) Recommending to Council rules and procedures, including the penalties as prescribed by section 61(1)(h) of *The University of Saskatchewan Act, 1995*, to deal with allegations of academic misconduct on the part of students.

9) Recommending to Council rules and procedures to deal with appeals by students and former students concerning academic decisions affecting them as provided in section 61 (1) (j) of *The University of Saskatchewan Act, 1995*.

10) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

AGENDA ITEM NO: 12.1

UNIVERSITY COUNCIL

GOVERNANCE COMMITTEE

REQUEST FOR DECISION

PRESENTED BY: Stephen Urquhart, chair
Governance Committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Proposed dissolution of the International Activities Committee of Council**

DECISION REQUESTED:

It is recommended that Council authorize the dissolution of the International Activities Committee of Council, effective immediately.

PURPOSE:

In November of 2018, the chair of the International Activities Committee (IAC) advised the chair of the Governance Committee that the IAC had concluded that the committee should be dissolved. The Governance Committee sought the assistance of the Co-ordinating Committee, which asked the standing committees of Council to review their terms of reference, with a view to distributing responsibility for activities related to internationalization through all Council committees that might play a role. The dissolution of the IAC is one component of this changed model; in a companion request for decision, Council will be asked to approve amendments to the terms of reference of a number of committees.

DISCUSSION SUMMARY:

Both the University Plan and the International Blueprint for Action adopted in the fall of 2018 emphasize that internationalization continues to be a priority for the University of Saskatchewan. Some years ago, Council decided its role in the international activities of the university should be carried out through a standing committee, the IAC. Rather than having this responsibility rest with one committee, the Governance Committee is now recommending the adoption of a different model that would see the goal of internationalization considered by all relevant committees when doing their work.

In October 2018, a working group of the IAC of Council completed a report on the strategic directions of the IAC (attachment 1). Dr. Keith Walker chaired the working group, which conducted its work from October 2017-October 2018. Upon receipt of the findings, and with careful consideration, the committee recommended that the IAC be dissolved. The IAC membership decided by electronic vote on November 21, 2018 to recommend to Council the dissolution of the IAC.

In consultation with the standing committees of Council, and with the assistance of the Co-ordinating Committee, the Governance Committee has overseen a process in which revisions have been proposed to the terms of reference of the Planning and Priorities Committee (PPC), the Research, Scholarly and Artistic Work Committee (RSAW), the Teaching, Learning and Academic Resources Committee (TLARC) and the Academic Programs Committee (APC), with a view to reminding these committees that the priority the university attaches to internationalization should be taken into account in their work. These revised terms of reference are the subject of a separate motion being put before Council for consideration.

With these revisions completed, the Governance Committee is recommending that the IAC be dissolved.

FURTHER ACTION REQUIRED:

Council will be asked at the November 21, 2019 meeting to approve revised terms of reference for PPC, RSAW, TLARC and APC.

ATTACHMENTS:

1. IAC Strategic directions working group report, dated October 16, 2018
2. IAC Memo to the Governance Committee, dated November 28, 2018

Strategic Directions Working Group
A Consensus Report
International Activities Committee of University Council
October 16th, 2018

Members: Naheda Sahtout (GSA President), Jim Lee (Executive Director, International), Alison Pickrell (Assistant Vice-Provost, Strategic Enrolment Management), Patti McDougall (Vice-Provost, Teaching, Learning and Student Experience), and Keith Walker (Working Group Lead)

Mandate of ad hoc Working Group:

To provide a "strategic directions report" to IAC (International Activities Committee).

Background:

Members met on a number of occasions from February to May 2018, and subsequently through e-mail exchanges. The group considered the fiduciary, generative and strategic functions of IAC and reviewed IAC Terms of Reference (ToR). Considerations and conversations included:

- Reviewing possible amendments to wording and specific elements of current terms of reference;
- Considering ways to enhance functioning, operations and ameliorate vulnerabilities of IAC (e.g., how to avoid distraction, goal displacement, redundant function and churning);
- Reviewing composition of Committee;
- Reflecting on interface with other units on campus;
- Testing IAC function and alignment with University Council functions (academic interests); and
- Asking questions about existence, mission, structure, and resources for IAC.

Comment:

The Working Group acknowledged the work of IAC on revisions to international awards, partnering to enhance international presence on website, periodic offering of input/consultation/vetting on various internationally-related initiatives, and for providing input into the *"Connecting with the World" The International Blueprint for Action 2025 – A Vision for a Globally Significant University*. The Working Group had dialogue on enhancing functions, wondering about composition of IAC, and considering how terms of reference might be adjusted to better align with University Council functions and new administrative structures and supports. The Working Group was eventually drawn back to questions of

the Committee's existence and mission.

Outcomes:

On May 3rd, we concluded that ***given the maturation of administrative and support functions for internationalization at the University of Saskatchewan, the seven terms of reference are redundant to tasks already assigned, or are ambiguous and lend themselves to busy-work and individual/situational agendas or belong with other committees of University Council.*** We further concluded that there were *three options* for Working Group to consider in reporting to IAC:

a. **Revise/Reframe:** IAC to become "something different" from current Committee via "tinkering" with ToR (terms of reference)
b. **Reset/Re-imagine:** IAC to be overhauled to meet current University Council needs through a process of significant change of mandate
c. **Resign/Release/Retire**: Recommend to IAC (and through IAC to University Council) that as currently set up, IAC is no longer relevant and has no functions that aren't taken care of by other administrative or faculty roles.

The Working Group decided to recommend the third option.

Warrants for Conclusion

Prior to considering questions of existence or mission of IAC, the Working Group assessed each of the ToR (see Table One)

As members went through each element of the ToR, it became evident that these terms were problematic. In the end, the weaknesses of elements and the whole ToR led to four overlapping observations:

1. The IAC functions envisioned and expressed in the ToR have been replaced by academic units and administrative roles, structures, authority and functions.
2. IAC is not well-positioned to be efficacious nor constructive in operationalizing the ToR
3. A number of the ToR elements have become formally assigned to and taken care of by other Units (See Table Two)

A number of the functions have been professionalized at University and Unit levels. If our assessment of ToR is accurate, then the existence of IAC, with no meaningful and useful functions ought be to re-evaluated. We were not able to conceive of an effective replacement set of ToR for IAC. **This led us to the recommendation that IAC be retired as a committee of University Council.**

One of the consequences of this recommendation, if ultimately affirmed by IAC and University Council, is related to the sufficiency of faculty governance in the realm of

internationalization, international activities, and international policy on campus. In other words, are there sufficient means for faculty to provide input and comments related to the international domain at and through university, college/school, and unit levels? Further, the membership of IAC has also provided one means for the voices of undergraduate and graduate student representatives, and so this recommendation affords the opportunity to consider alternative ways and means for their voices to be represented in matters related to international activities and policies. The While the Working Group did not see fit to offer assessment or remedy for these risks of reduced engagement, it was deemed important to raise the issue.

Table One

IAC Terms of Reference, Themes and Assessment

The purpose of this table is to reflect some of the dialogue undertaken by Working Group to see the appropriateness and relevance of ToR

Interpretation of Themes	Terms of Reference
1. Issue Identification	**Recommend to Council on issues relating to international activities at the University** **Dialogue:** Problem focused, policing, what sources (beyond Committee Members), ambiguous, gravity-funnel function, mediating function, slippery slope and antenna or watch-dog role. There is or could be a tendency to use IAC to lobby for particular interests Is the IAC as presently constituted in the best position to fulfill this ToR? Answer = "No"
2. Policy & Regulation Review	**Reviewing policies and regulations relating to international activities at the University, and reporting observations and issues to Council** **Dialogue:** Misplaced casuistry (tendency to deal with detailed cases and offer policy reactions to these), overlap with Governance Committee of Council, what would/might the agenda look like for this review (central, unit by unit, particular type of policies and regulations)? What would Council do with report? Is this a functionally wise ToR? Answer = "No"
3. Internal Promotion	**Promoting programs and curricula that provide an international perspective** **Dialogue:** Too detailed and administrative for a committee of University Council, to what end and what might advice provide that is not already provided? Example cited of double degrees but this might best be handled by other committees of University Council and promotion is more typically seen as function of academic or administrative units with budget resources and well-equipped processes.
4. Review & Advice	**Reviewing and providing advice on frameworks, procedures and agreements with foreign institutions to relevant university officers, the Planning and Priorities Committee, the Academic Programs Committee and/or other Council Committees** **Dialogue:** This set of responsibilities is already assigned to administrative units and International Office. See comments on first terms of reference and Table 2.
5. External Promoting & Fostering	**Promoting interactions with university and educational/research institutions outside Canada, to foster new opportunities for University of Saskatchewan stakeholders in teaching, learning and research** **Dialogue:** Already assigned to International Operations Committee (administrative), which is a mediating structure for these activities. Some of this is Unit and individual research mediated. See Table 2.
6. Receiving, Reviewing, Reporting and Conveying	**Receiving, reviewing and reporting to Council reports on matters relating to international student, research and alumni activities from the international units of the**

	University, as well as sharing information with and forwarding reports to other appropriate bodies at the University. **Dialogue:** This is a middle-role (broker function) where Committee could pick and choose, be the messenger and "get into the weeds" – the functions in this terms of reference are with Units and International Office functions. See Table 2.
7. Delegation of Representatives	**Designating individuals to act as representatives of the Committee on any other bodies when requested, where such representation is deemed by the Committee to be beneficial.** **Dialogue:** Don't need a Committee for this function; other committees of University Council (including Nominations Committee) can look after this.

Table Two

IAC Terms of Reference in Relation to Other Units

The purpose of this table is to provide evidence for the Working Group Claim that IAC ToR are now more appropriately taken care of by other units on campus (at both University and Academic Unit levels)

IAC Terms of Reference	**Other Units** (primary, secondary, tertiary)
Recommend to Council on issues relating to international activities at the University	Overall responsibility of the international portfolio now falls to the Provost/Vice-President Academic and Vice-President Research, who both provide reports to Council. Oversight of international activities is provided by the International Steering Team consisting of the Vice-Provost (Teaching, Learning, and Student Experience), Dean (College of Graduate and Postdoctoral Studies), Associate Vice-President (Research), and Associate Vice-President (Alumni Relations).
Reviewing policies and regulations relating to international activities at the University, and reporting observations and issues to Council	The International Operations Committee has been created to plan and coordinate the seamless delivery of international activities, initiatives and programs at the University of Saskatchewan. It meets on a monthly basis, members of the International Steering Team are part of the committee, and it is chaired by the Executive Director (International). As a Designated Learning Institution (IRCC), the U of S has a responsibility to adhere to the Province's DLI framework in order to maintain its status to enroll international students. An oversight team has been established, reporting through the Assistant Vice-Provost, SEM and Dean, College of Graduate and Postdoctoral Studies, to ensure policies and practices related to international students are up to date and communicated. Development, approval and administration of university policies relating to international activities (teaching & learning, student affairs, research & scholarly activities, operations & administration, safety and risk, and advancement) follow established procedures outlined on the University Secretary's website: http://policies.usask.ca/
Promoting programs and curricula that provide an international perspective	A key objective in the International Blueprint for Action is internationalizing learning experiences. There are several objectives including: 1. Increasing study abroad engagement.

	2. Enhancing international & cross cultural perspective in content and learning in the curriculum 3. Optimizing participation in co-curricular activities that are inclusive and foster intercultural understanding Primary responsibility for actioning this pillar lies with the Teaching, Learning and Student Experience portfolio with leadership of key administrative units such as the International Student & Study Abroad Centre, and the Gwenna Moss Centre for Teaching & Learning. Colleges and schools are formalizing their thinking in this area through the strategic planning process and blueprint projects. Funding is being made available to support these priorities. The Provost / Vice-President (Academic) and Vice-President (Research) will be keeping tabs on the progress of these goals.
Reviewing and providing advice on frameworks, procedures and agreements with foreign institutions to relevant university officers, the Planning and Priorities Committee, the Academic Programs Committee and/or other Council Committees	The International Partnerships Team in the International Research and Partnerships Office (IRPO) now falls under the direct leadership of the Executive Director (International). Alongside faculty and colleges, this team now advises, facilitates, and negotiates the development of all academic agreements (outside of research contracts) involving international partners.
Promoting interactions with university and educational/research institutions outside Canada, to foster new opportunities for University of Saskatchewan stakeholders in teaching, learning and research	It is standard practice and there are common pathways for international opportunities to be identified directly from the work of faculty members, Colleges, and the international networks they develop and maintain. Stemming (in large part, though not exclusively) from the work and direction of faculty and colleges, the International Research and Partnerships Office (IRPO), Teaching, Learning, and Student Experience (TLSE) and other units promote and facilitate collaborative international opportunities in teaching, research, and the student experience involving international partners.
Receiving, reviewing and reporting to Council reports on matters relating to international student, research and alumni activities from the international units of the University, as well as sharing information with and forwarding reports to other appropriate bodies at the University.	Information related to international students and international research activities is presented regularly to Council through reports provided by the Provost/Vice-President (Academic) and/or Vice-President (Research). International student related data needs are facilitated and coordinated through the Strategic Enrolment Intelligence Team, reporting to the Vice Provost, TLSE.

	The Institutional Planning and Assessment office overseas university-level internationalization metrics and external reporting related to internationalization such as international rankings.
Designating individuals to act as representatives of the Committee on any other bodies when requested, where such representation is deemed by the Committee to be beneficial.	Other Council committees may need informed perspectives related to internationalization related topics. This could be obtained through International Operations Committee members and/or members of the International Steering Team (described above) . As indicated, University Council, College/School Faculties, and Administrative units may see fit to consider opportunities and gaps with respect to recruitment of faculty and student representation on committees, task forces or other groups to provide appropriate faculty and student engagement in governance, policy making, leadership and decision making in the international domain.

Attachment 2

International Activities Committee of Council

Memo

To: Jay Wilson, Chair, Governance Committee of Council

From: Paul Orlowski, Chair, International Activities Committee of Council

cc: Jacquie Thomarat; Roxanne Craig

Date: November 28, 2018

Re: Dissolution of the International Activities Committee of Council

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Dear Jay,

The International Activities Committee of Council (IACC) conducted an electronic ballot vote to bring forth a recommendation to Council to dissolve the committee. The vote was carried.

Background: the IACC has been discussing strategic directions of the committee for the past few years, as they felt the committee had become too operational rather than offering strategic guidance to Council. In the fall of 2017 a working group (Strategic Directions, chaired by Keith Walker) was created to develop a plan for the IACC to become a more strategic group for Council on matters of international. The Strategic Directions final report (attached), along with a recommendation to dissolve the committee, was presented to the membership at the October 17, 2018 meeting. Following a lengthy discussion the members agreed to consider the report and the recommendation to Council of dissolution and would vote on the matter at the November meeting. The vote was carried. It was felt that the oversight of international activities at the U of S was being addressed in various ways across campus especially with creation of the new International Blueprint, overseen by the International Operations Committee under the direction of Patricia McDougall, Trever Crowe, and Guy Larocque.

Sincerely,

Paul Orlowski, PhD
Associate Professor
Department of Educational Foundations
College of Education
University of Saskatchewan
Saskatoon, Canada
(306) 966-1350
paul.orlowski@usask.ca
http://www.usask.ca/education/profiles/orlowski.php

AGENDA ITEM NO: 12.2

UNIVERSITY COUNCIL
GOVERNANCE COMMITTEE
REQUEST FOR DECISION

PRESENTED BY: Stephen Urquhart, chair, Governance Committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Updated Standing Committees' Terms of Reference and Internationalization**

NOTICE OF MOTION:

It is recommended that Council approve the attached changes to the terms of reference of PPC, RSAW, TLARC, and APC as they relate to internationalization or regular updates to membership and/or administrator titles, effective immediately.

PURPOSE:
To ensure that internationalization, which is a key strategic priority for the University of Saskatchewan, continues to be considered as a regular item in conducting the business of University Council.

DISCUSSION SUMMARY:
On November 21, 2019, a request for decision will be presented to Council to propose the dissolution of the International Activities Committee (IAC) of Council. This proposal coincides with that motion.

On January 31, 2019 the Coordinating Committee determined that in order to appropriately address the need for internationalization to remain a priority in Council business following the proposed dissolution of the IAC, and to ensure faculty input, the other committees of Council should be asked to consider whether their terms of reference might be revised to ensure that the goal of internationalization is taken into account in their work.

From February 2019 to September of 2019 feedback was collected from all of the Council standing committees, and is included in this notice of motion for the information of Council.

FURTHER ACTION REQUIRED:

A request for decision will be presented to Council on November 21, 2019 to update these standing committees' terms of reference.

ATTACHMENTS:

1. Memo: Changes to terms of reference for APC
2. Current APC terms of reference
3. Proposed changes to APC terms of reference
4. Email: Nominations committee of Council and internationalization
5. Memo: Changes to terms of reference for PPC
6. PPC terms of reference
7. RSAW memo
8. RSAW terms of reference
9. Email cover: TLARC terms of reference changes
10. Revision TLARC terms of reference upon IAC dissolution

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Stephen Urquhart, chair, governance committee of Council

Cc: Jacquie Thomarat, associate secretary, academic governance

FROM: Roy Dobson, chair, academic programs committee of Council

DATE: March 28, 2019

RE: **Changes to the terms of reference for APC**

The academic programs committee is pleased to respond to the request to review its terms of reference in light of the anticipated dissolution of the international activities committee.

Attached are the proposed revisions to the terms of reference for the Academic Programs Committee, with changes in mark-up. In addition to making changes that ensure that the committee's work is done in line with the university's priorities, such as internationalization and Indigenization, housekeeping changes were made to some wording and to the titles of some members of the committee.

The academic programs committee is also proposing to add the associate registrar, academic as a non-voting resource member of the committee. The rationale for this inclusion is the expertise and insight that this position brings regarding program delivery and the academic cycle. Finally, we are recommending the removal of the director of budget planning as a non-voting resource member, as that role no longer exists at the institution and the required expertise is being provided by the designate for the vice-president, finance and resources

Please let me know if there are any concerns about the proposed changes to these terms of reference, by email to the committee secretary Amanda Storey (amanda.storey@usask.ca).

Encl: 2

(1) Terms of Reference – Academic Programs Committee (with mark-up)
(2) Terms of Reference – Academic Programs Committee (clean)

I. ACADEMIC PROGRAMS COMMITTEE

Membership

Eleven members of the General Academic Assembly, at least five of whom will be elected members of Council, normally one of whom will be chair. At least one member from the General Academic Assembly with some expertise in financial analysis will be nominated. One sessional lecturer
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.

Ex Officio
Vice-Provost Teaching, Learning, and Student Experience
The University Registrar
The Vice-president (Finance & Resources) or designate (non-voting member)
The President (non-voting member)
The Chair of Council (non-voting member)

Resource Personnel (Non-voting members)
The Assistant Vice-Provost, Strategic Enrolment Management
The Associate Provost, Institutional Planning and Assessment
The Associate Registrar (Academic)

Administrative Support
The Office of the University Secretary

The Academic Programs Committee is responsible for:

1) Recommending to Council policies and procedures related to academic programs and sustaining program quality.

2) Recommending to Council on new programs, major program revisions and program deletions, including their budgetary implications.

3) Approving minor program changes, including additions of new courses and revisions to or deletions of existing courses and reporting them to Council.

4) Considering outreach and engagement aspects of programs.

5) Reporting to Council processes and outcomes of academic program review, following consultation with Planning and Priorities and other Council committees as appropriate.

6) Undertaking the academic and budgetary review of proposals for the establishment, disestablishment or amalgamation of any college, school, department or any unit responsible for the administration of an academic program and forwarding recommendations to the Planning and Priorities Committee.

7) Undertaking the academic and budgetary review of the proposed or continuing affiliation or federation of other institutions with the University and forwarding recommendations to the Planning and Priorities Committee.

8) Reporting to Council on the academic implications of quotas and admission standards.

9) Approving the annual academic schedule and reporting the schedule to Council for information and recommending to Council substantive changes in policy governing dates for the academic sessions.

10) Approving minor changes (such as wording and renumbering) to rules governing examinations and reviewing and recommending to Council substantive changes.

11) Recommending to Council classifications and conventions for instructional programs.

12) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

13) Consider the priorities of the University, such as Indigenization and internationalization, when assessing current and new academic programs and policies.

14) Carrying out all the above in the spirit of a philosophy of equitable participation and an appreciation of the contributions of all people, with particular attention to rigorous and supportive programs for Indigenous student success, engagement with Indigenous communities, inclusion of Indigenous knowledge and experience in curricular offerings, and intercultural engagement among faculty, staff and students.

I. ACADEMIC PROGRAMS COMMITTEE

Membership

Eleven members of the General Academic Assembly, at least five of whom will be elected members of Council, normally one of whom will be chair. At least one member from the General Academic Assembly with some expertise in financial analysis will be nominated.
One sessional lecturer
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.

Ex Officio
Vice-Provost Teaching, Learning, and Student Experience
The University Registrar
The Vice-president (Finance & Resources) or designate (non-voting member)
The President (non-voting member)
The Chair of Council (non-voting member)

Resource Personnel (Non-voting members)
The Assistant Vice-Provost, Strategic Enrolment Management
The Associate Provost, Institutional Planning and Assessment
The Associate Registrar (Academic)

Administrative Support
The Office of the University Secretary

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3) Approving minor program changes, including additions of new courses and revisions to or deletions of existing courses and reporting them to Council.

4) Considering outreach and engagement aspects of programs.

5) Reporting to Council processes and outcomes of academic program review, following consultation with Planning and Priorities and other Council committees as appropriate.

6) Undertaking the academic and budgetary review of proposals for the establishment, disestablishment or amalgamation of any college, school, department or any unit responsible for the administration of an academic program and forwarding recommendations to the Planning and Priorities Committee.

7) Undertaking the academic and budgetary review of the proposed or continuing affiliation or federation of other institutions with the University and forwarding recommendations to the Planning and Priorities Committee.

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14) Carrying out all the above in the spirit of a philosophy of equitable participation and an appreciation of the contributions of all people, with particular attention to rigorous and supportive programs for Indigenous student success, engagement with Indigenous communities, inclusion of Indigenous knowledge and experience in curricular offerings, and intercultural engagement among faculty, staff and students.

Archived: Monday, May 13, 2019 3:16:59 PM
From: Downe, Pamela
Sent: Fri, 10 May 2019 18:18:56 +0000Authentication
To: Thomarat, Jacquie; Urquhart, Stephen
Subject: Internationalization and the Nominations Committee of Council
Sensitivity: Normal

Dear Stephen and Jacquie,

The Nominations Committee of University Council considered how we can accommodate internationalization into our work. We had a thorough discussion of this at one of our meetings in April. The consensus was not to change the Committee's Terms of Reference. Internationalization figures into our ongoing commitment to diversity as we populate the committees of Council and those stipulated by the Collective Agreement.

Pam Downe
Chair, Nominations Committee

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Pamela J. Downe, Ph.D.
Associate Professor, Department of Archaeology & Anthropology, University of Saskatchewan
President, Canadian Anthropology Society/Société canadienne d'anthropologie

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Stephen Urquhart, chair, governance committee of Council

FROM: Dirk de Boer, chair, planning and priorities committee of Council

DATE: May 9, 2019

RE: **Changes to the terms of reference for the planning and priorities committee**

The planning and priorities committee (PPC) is pleased to respond to the request to review its terms of reference in light of the anticipated dissolution of the international activities committee.

The committee discussed its terms of reference at its April 25, 2019 meeting and considered the changes that have been proposed by other Council committees. PPC is confident that its terms of reference adequately capture internationalization as the committee's work is focused on ensuring alignment with the University's priorities, one of which is internationalization. For this reason, PPC recommends no change to the committee's responsibilities articulated in the terms of reference.

To ensure that the committee has appropriate support and expertise in internationalization, the committee proposes to add the Executive Director, International from the Office of Vice-President Research as a non-voting resource member on the committee. Please see this reflected in the attached marked-up terms of reference.

Please let me know if there are any concerns about the proposed changes to these terms of reference, by email to the committee secretary Jacquie Thomarat (jacquie.thomarat@usask.ca).

Encl: 2

(1) Terms of Reference – Planning and Priorities Committee (with mark-up)
(2) Terms of Reference – Planning and Priorities Committee (clean)

PLANNING AND PRIORITIES COMMITTEE

Membership

Eleven members of the General Academic Assembly, at least six of whom will be elected members of Council, normally one of whom will be chair. At least one member from the General Academic Assembly with some expertise in financial analysis will be nominated.
One Dean appointed by the Council
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.
One sessional lecturer

Ex Officio Members
The Provost & Vice-president Academic or designate
The Vice-President (Finance & Resources) or designate
The Vice-president (Research) or designate
The Vice-provost Indigenous Engagement
The President (non-voting member)
The Chair of Council (non-voting member)

Resource Personnel (Non-voting members)
The Associate Provost, Institutional Planning and Assessment
The Director of Resource Allocation and Planning
The Director of Institutional Effectiveness
The Chief Information Officer and Associate Vice-president Information and Communications Technology
The Executive Director, International – Office of the Vice President Research

Administrative Support
The Office of the University Secretary

The Planning and Priorities Committee of Council is responsible for:

1) Conducting and reporting to Council on university–wide planning and review activities in consultation with the Provost and Vice-president Academic.

2) Evaluating College and Unit plans and reporting the conclusions of those evaluations to Council.

3) Recommending to Council on academic priorities for the University.

4) Recommending to Council on outreach and engagement priorities for the University.

5) Seeking advice from other Council committees to facilitate university-wide academic planning.

6) Recommending to Council on the establishment, disestablishment or amalgamation of any college, school, department or any unit responsible for the administration of an academic program, with the advice of the academic programs committee.

7) Balancing academic and fiscal concerns in forming its recommendations.

8) Providing advice to the President on budgetary implications of the Operations Forecast and reporting to Council.
9) Considering the main elements of the Operating Budget and the Capital Budget and reporting to Council.

10) Advising the academic programs committee on the fit with University priorities and the general budgetary appropriateness of proposals for new academic programs and program deletions.

11) Integrating and recommending to Council on matters referred to it from other Council committees.

12) Advising the President and senior executive on operating and capital budgetary matters, including infrastructure and space allocation issues, referred from time to time by the President, providing the advice is not inconsistent with the policies of Council. The planning and priorities committee will report to Council on the general nature of the advice and, where practicable, obtain the guidance of Council. However, the committee need not disclose to Council matters the disclosure of which would be inimical to the interests of the University.

13) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

PLANNING AND PRIORITIES COMMITTEE

Membership

Eleven members of the General Academic Assembly, at least six of whom will be elected members of Council, normally one of whom will be chair. At least one member from the General Academic Assembly with some expertise in financial analysis will be nominated.
One Dean appointed by the Council
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.
One sessional lecturer

Ex Officio Members
The Provost & Vice-president Academic or designate
The Vice-President (Finance & Resources) or designate
The Vice-president (Research) or designate
The Vice-provost Indigenous Engagement
The President (non-voting member)
The Chair of Council (non-voting member)

Resource Personnel (Non-voting members)
The Associate Provost, Institutional Planning and Assessment
The Director of Resource Allocation and Planning
The Director of Institutional Effectiveness
The Chief Information Officer and Associate Vice-president Information and Communications Technology
The Executive Director, International – Office of the Vice President Research

Administrative Support
The Office of the University Secretary

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1) Conducting and reporting to Council on university–wide planning and review activities in consultation with the Provost and Vice-president Academic.

2) Evaluating College and Unit plans and reporting the conclusions of those evaluations to Council.

3) Recommending to Council on academic priorities for the University.

4) Recommending to Council on outreach and engagement priorities for the University.

5) Seeking advice from other Council committees to facilitate university-wide academic planning.

6) Recommending to Council on the establishment, disestablishment or amalgamation of any college, school, department or any unit responsible for the administration of an academic program, with the advice of the academic programs committee.

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8) Providing advice to the President on budgetary implications of the Operations Forecast and reporting to Council.
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13) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

UNIVERSITY OF SASKATCHEWAN

MEMORANDUM

TO: Stephen Urquhart, chair, governance committee of Council

Cc: Jacquie Thomarat, associate secretary, academic governance

FROM: Jon Bath, chair, research, scholarly and artistic work committee of Council

DATE: September 23, 2019

RE: **Further changes to the terms of reference for the Research, Scholarly, and Artistic Work committee**

Thank you for your memo of May 27, 2019 responding to RSAW's proposed changes to its terms of reference. The committee appreciates the feedback of the governance committee.

Attached are the further revisions to the terms of reference of for the research, scholarly, and artistic work committee – see item 10 for changes in response to the governance committee's initial request to review its terms of reference in response to the pending dissolution of the international activities committee.

Additional editorial changes have been made to the terms of reference to update titles of members of the committee and of units within the institution.

Lastly, RSAW appreciates that the governance committee will be reviewing the membership for all Council committees as part of its work for this year and continues to recommend that the dean, University Library be added as an ex-officio voting member and that the current resource members (assistant vice-president, research and the director, strategic research initiatives) be added as nonvoting members of the committee. The rationale for these changes were outlined in our memo to you dated March 29, 2019.

Attached you will find, therefore, a version of the terms of reference with only the editorial changes and the addition of language related to internationalization (both a clean version and one with tracked changes) as well as a version of the terms of reference that include the additional membership above (again, with both a clean version and one with changes tracked).

Please let me know if there are any concerns about the proposed changes to these terms of reference, by email to the committee secretary Amanda Storey (amanda.storey@usask.ca).

Encl: 4

(1) Terms of Reference – Research, Scholarly and Artistic Work Committee – internationalization and membership (with mark-up)
(2) Terms of Reference – Research, Scholarly and Artistic Work Committee-internationalization and membership (clean)
(3) Terms of Reference – Research, Scholarly and Artistic Work Committee-internationalization (with mark-up)
(4) Terms of Reference – Research, Scholarly and Artistic Work Committee-internationalization (clean)

VII. RESEARCH, SCHOLARLY AND ARTISTIC WORK COMMITTEE

Membership

Nine members of the General Academic Assembly, at least three of whom will be elected members of Council, normally one of whom will be chair. Two of the nine members will be Assistant or Associate Deans with responsibility for research.
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.

Ex Officio
The Vice-president Research
The Dean of the College of Graduate and Postdoctoral Studies
The President (non-voting member)
The Chair of Council (non-voting member)

Administrative Support
The Office of the University Secretary

The Research, Scholarly and Artistic Work Committee is responsible for oversight of research, scholarly and artistic activity at the University, as academic activities under Council's purview. It is responsible for:

1) Recommending to Council on issues and strategies to support research, scholarly and artistic work.

2) Recommending to Council on policies and issues related to research integrity and ethics in the conduct of research, scholarly and artistic work.

3) Recommending to Council and providing advice to the Vice-President Research on community engagement and knowledge translation activities related to research, scholarly and artistic work.

4) Providing advice to the Vice-President Research and reporting to Council on issues/opportunities relating to the agencies/organizations providing research funding/resources to the University.

5) Providing advice to the Vice-President Research, the Vice-Provost Teaching, Learning and Student Experience, and Dean of Graduate and Postdoctoral Studies on the contributions of undergraduate and graduate students and post-doctoral fellows to the research activity of the University.

6) Examining proposals for the establishment and disestablishment of any institute or centre engaged in research, scholarly or artistic work at the University, and providing advice to the Planning and Priorities Committee of Council.

7) Receiving annual reports from the Vice-President Research and the Dean of Graduate and Postdoctoral Studies

8) Receiving and reporting to Council the University's research ethics boards' annual reports.

9) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

10) Considering the priorities of the University community, such as Indigenization and internationalization, when assessing current and new research, scholarly, and artistic work activities.

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Membership

Nine members of the General Academic Assembly, at least three of whom will be elected members of Council, normally one of whom will be chair. Two of the nine members will be Assistant or Associate Deans with responsibility for research.
One undergraduate student appointed by the U.S.S.U.
One graduate student appointed by the G.S.A.

Ex Officio
The Vice-president Research
The Dean of the College of Graduate and Postdoctoral Studies
The President (non-voting member)
The Chair of Council (non-voting member)

Administrative Support
The Office of the University Secretary

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2) Recommending to Council on policies and issues related to research integrity and ethics in the conduct of research, scholarly and artistic work.

3) Recommending to Council and providing advice to the Vice-President Research on community engagement and knowledge translation activities related to research, scholarly and artistic work.

4) Providing advice to the Vice-President Research and reporting to Council on issues/opportunities relating to the agencies/organizations providing research funding/resources to the University.

5) Providing advice to the Vice-President Research, the Vice-Provost Teaching, Learning and Student Experience, and Dean of Graduate and Postdoctoral Studies on the contributions of undergraduate and graduate students and post-doctoral fellows to the research activity of the University.

6) Examining proposals for the establishment and disestablishment of any institute or centre engaged in research, scholarly or artistic work at the University, and providing advice to the Planning and Priorities Committee of Council.

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8) Receiving and reporting to Council the University's research ethics boards' annual reports.

9) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

10) Considering the priorities of the University community, such as Indigenization and internationalization, whenassessing current and new research, scholarly, and artistic work activities.

Archived: Monday, May 13, 2019 3:19:13 PM
From: Urquhart, Stephen
Sent: Tue, 16 Apr 2019 17:48:14 +0000Authentication
To: Wilson, Jay; Wells, Katelyn; Thomarat, Jacquie
Subject: FW: TLARC Terms of Reference Changes
Sensitivity: Normal
Attachments:
TLARC TOR revision on IAC dissolution (FNL).docx;

From: "Bruni-Bos sio, Vincent" <bruni-boss io@edwards.usask.ca>
Date: Tuesday, April 16, 2019 at 11:37 AM
To: "Urquhart, Stephen" <stephen.urquhart@usask.ca>
Subject: TLARC Terms of Reference Changes

Hello Stephen

On behalf of TLARC I am attaching our proposed changes to the TOR to better incorporate a focus on international activities.

TLARC members felt strongly that our TOR had to reference Indigenization and Internationalization separately where possible.

This draft has been approved by TLARC in a formal vote.

Please let me know if you need anything else.

Vince

Revising TLARC terms of reference upon International Activities Committee dissolution

Summary

Building on TLARC discussions of February 12 and March 26, this revision aims to emphasize the committee's dual focus on Indigenization and internationalization and to reflect the revised Learning Charter.

Current

The Teaching, Learning and Academic Resources committee is responsible for:

1. Commissioning, receiving and reviewing reports related to teaching, learning and academic resources, with a view to supporting the delivery of academic programs and services at the University of Saskatchewan.
2. Making recommendations to Council and the Planning and Priorities committee on policies, activities and priorities to enhance the effectiveness, evaluation and scholarship of teaching, learning and academic resources at the University of Saskatchewan.
3. Promoting student, instructor and institutional commitments and responsibilities, as set out in the University of Saskatchewan Learning Charter and as reflected in the top priority areas of the University of Saskatchewan Integrated Plans.
4. Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

Carrying out all of the above in the spirit of philosophy of equitable participation and an appreciation of the contributions of all people, with particular attention to rigorous and supportive programs for Aboriginal student success, engagement with Aboriginal communities, inclusion of Indigenous knowledge and experience in curricular offerings, and intercultural engagement among faculty, staff and students.

Proposed - redline

The Teaching, Learning and Academic Resources committee is responsible for:

1. Commissioning, receiving and reviewing reports related to teaching, learning and academic resources, with a view to supporting the delivery of academic programs and services at the University of Saskatchewan.
2. Making recommendations to Council and the Planning and Priorities committee on policies, activities and priorities to enhance the effectiveness, evaluation and scholarship of teaching, learning and academic resources at the University of Saskatchewan.
3. Promoting university community, student and educator commitments and responsibilities, as set out in our University of Saskatchewan Learning Charter and as reflected in the top priority areas of the mission, vision, values and strategic plan of the University of Saskatchewan.
4. Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

The committee will carry out all of the above in the spirit and philosophy of equitable participation and an appreciation of the contributions of all people. As one of the university's priority areas is Indigenization, this includes rigorous and supportive programs for Indigenous student success, engagement with Indigenous communities, and the creation of learning outcomes tied to Indigenous content and experiences grounded in Indigenous world views. In this context, Indigenous refers to First Nations, Métis and Inuit people of Canada. In addition, the prioritization of internationalization calls the committee to a focus on intercultural and international engagement among students, educators, and staff.

Proposed – changes incorporated

The Teaching, Learning and Academic Resources committee is responsible for:

1. Commissioning, receiving and reviewing reports related to teaching, learning and academic resources, with a view to supporting the delivery of academic programs and services at the University of Saskatchewan.
2. Making recommendations to Council and the Planning and Priorities committee on policies, activities and priorities to enhance the effectiveness, evaluation and scholarship of teaching, learning and academic resources at the University of Saskatchewan.
3. Promoting university community, student and educator commitments and responsibilities, as set out in our University of Saskatchewan Learning Charter and as reflected in the top priority areas of the mission, vision, values and strategic plan of the University of Saskatchewan.
4. Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

The committee will carry out all of the above in the spirit and philosophy of equitable participation and an appreciation of the contributions of all people. As one of the university's priorities is Indigenization, this includes rigorous and supportive programs for Indigenous student success, engagement with Indigenous communities, and the creation of learning outcomes tied to Indigenous content and experiences grounded in Indigenous world views. In this context, Indigenous refers to First Nations, Métis and Inuit people of Canada. In addition, the prioritization of internationalization calls the committee to a focus on intercultural and international engagement among students, educators, and staff.

AGENDA ITEM NO: 12.3

UNIVERSITY COUNCIL

GOVERNANCE COMMITTEE

NOTICE OF MOTION

PRESENTED BY: Stephen Urquhart, Chair
Governance Committee

DATE OF MEETING: November 21, 2019

SUBJECT: **Strategic Coordination Subcommittee Terms of Reference**

DECISION REQUESTED: *It is recommended:*

That Council approve the amendment of the Council bylaws by replacing the existing terms of reference for the Standing Subcommittee of the Coordinating Committee with the terms of reference for the Strategic Coordination Subcommittee as set out in the attachment.

PURPOSE:
To clarify the role of this standing subcommittee of the Coordinating Committee and to strengthen channels of communication between Council committees and the senior administration of the university concerning major initiatives.

DISCUSSION SUMMARY:
In the 2018-2019 year, the Governance Committee considered whether the Standing Subcommittee of the Coordinating Committee, which had not met for several years, continued to serve a useful purpose. The committee determined that, rather than considering the elimination of the subcommittee, the terms of reference should be examined and revised in consultation with the provost.

As the revised terms of reference indicate, the subcommittee is designed to provide a channel of communication and reciprocal discussion between the chairs of a number of Council committees and the senior administration of the university concerning major initiatives being undertaken or planned. This should support a common understanding of these initiatives and ensure that any Council approval that is required can be given in a timely way.

FURTHER ACTION REQUIRED:

A request for decision will be brought before Council at the meeting of December 19, 2019.

ATTACHMENT:

1. Strategic Coordinating Subcommittee Terms of Reference
2. Coordinating Committee Terms of Reference with tracked changes

Attachment 1

(As approved by the Governance Committee on October 30, 2019)

Strategic Coordination Subcommittee

Membership:

- Chair of University Council (chair)
- Chairs of the Research, Scholarly and Artistic Work, Planning and Priorities and Academic Programs Committee of Council
- Provost
- Associate Provost Institutional Planning and Assessment
- Vice-President Finance and Resources.
- Other individuals, including Council chairs, Council members, and members of the University administration can be invited as guests, as required
- Resource members: Associate Secretary, Academic Governance

This committee will meet a minimum of 2 times per year, or otherwise as needed.

This committee will consider the development of strategic academic initiatives in support of the University Plan. This committee will facilitate communication channels in this context, and provide advice and counsel on the progress of these initiatives through Council oversight.

This is a joint committee that will report to Council through the coordinating committee and the chair of council. A final report of the committee activities will be presented as part of the coordinating committee annual report.

Attachment 2

COORDINATING COMMITTEE - Terms of Reference

Membership

Chair of Council, who shall be Chair
Vice-Chair of Council
Chairs of Council Committees

Resource Personnel and Administrative Support
Office of the University Secretary

The Coordinating Committee is responsible for:

1) Setting the agenda for Council meetings

2) Receiving and determining the disposition of written motions from individual members of Council. The coordinating committee will either include the motion on the Council agenda or refer the matter to a standing committee(s), which will then report back on the matter to the coordinating committee and Council.

3) Facilitating the flow of information between Council committees and the Administration, and between Council committees and the Senate.

4) Coordinating the work of Council committees.

5) Advising the Chair of Council on matters relating to the work of Council.

6) Designating individuals to act as representatives of the committee on any other bodies, when requested, where such representation is deemed by the committee to be beneficial.

~~**STANDING SUBCOMMITTEE OF THE COORDINATING COMMITTEE**~~

~~**Membership**~~

~~Chair of Council, who shall be Chair~~
~~Chair of academic programs committee~~
~~Chair of planning and priorities committee~~
~~Chair of the research, scholarly & artistic work committee~~

~~**The Standing Subcommittee is responsible for:**~~

~~(1) Meeting regularly with the Provost's Committee on Integrated Planning in order to facilitate the flow of information between Council and PCIP.~~

~~(2) Reporting to the coordinating committee on matters relating to integrated planning.~~

Strategic Coordination Subcommittee

Membership:

- Chair of University Council (chair)
- Chairs of the Research, Scholarly and Artistic Work, Planning and Priorities and Academic Programs Committee of Council
- Provost
- Associate Provost Institutional Planning and Assessment
- Vice-President Finance and Resources.
- Other individuals, including Council chairs, Council members, and members of the University administration can be invited as guests, as required
- Resource members: Associate Secretary, Academic Governance

This committee will meet a minimum of 2 times per year, or otherwise as needed.

This committee will consider the development of strategic academic initiatives in support of the University Plan. This committee will facilitate communication channels in this context, and provide advice and counsel on the progress of these initiatives through Council oversight.

AGENDA ITEM NO: 13.1

UNIVERSITY COUNCIL

RESEARCH, SCHOLARLY, AND ARTISTIC WORK COMMITTEE

REPORT FOR INFORMATION

PRESENTED BY: Jon Bath; chair, Research, Scholarly, and Artistic Work

DATE OF MEETING: November 21, 2019

SUBJECT: **Annual Reports from the Research Ethics Boards**

COUNCIL ACTION: **For Information Only**

SUMMARY:

The terms of reference for the Research, Scholarly, and Artistic Work committee state that the committee will receive and report to council the annual reports of the research ethics boards

At its October 24 meeting, RSAW met with the chairs of the Biomedical Research Ethics, the Behavioural Research Ethics, and the Animal Ethics Boards as well as with the Director of Research Services and Ethics Office. The reports provided are attached to this report.

Biomedical Research Ethics Board

The Biomedical Research Ethics Board is responsible for the review of all ethics applications involving human participants that include medically invasive procedures; physical interventions and therapies; administration and testing of drugs, natural products or devices; or physiological imaging measures, as well as research projects collective personal health information from medical charts and health records.

The Biomedical Research Ethics Board received 322 new studies for review, and reviewed and approved 576 applications for continuing studies, 158 study closures, and 482 study amendments.

There were five audits or inspections by external agencies conducted in 2018/19, though not was a site audit by Health Canada. All audits/inspections were related to cancer trials. In 2018, all human ethics records were migrated to UnivRS and there has been a soft roll-out of the administrative processes and workflows in UnivRS.

Behavioural Research Ethics Board

The Behavioral Research Ethics Board is responsible for review of all protocols involving human participants which include social, behavioural, and cultural research using methods such as interviews, surveys, questionnaires, observations, psychological, social or behavioural interventions, audio and/or video recording.

The Behavioural Ethics Board received 567 new studies, and reviewed and approved 412 renewal requests for ongoing studies, 241 study closures, and 265 study amendments.

As of February 2019, the Behavioural Ethics Board had satisfied all fourteen recommendations put forward by an audit completed in April 2017.

University Animal Care Committee

The University Animal Care Committee (UACC) is administratively supported by the Research Services and Ethics Office Animal Ethics Staff, who are overseen by the University Veterinarian.

The UACC reviews and approves any use of animal for research, teaching, production, and testing before animal use is initiated for these purposes. The UACC's primary responsibilities are to ensure animal welfare, adequate veterinary care, and best practices with respected to animal care and use in compliance with University of Saskatchewan Policy, Canadian Council on Animal Care guidelines, and other applicable regulation. The UACC has 463 active U of S protocols and serve approximately 211 investigators. Animal Ethics staff provide specialized support for animal users engaged in research, teaching, and testing

The Canadian Council on Animal Care conducted a full site assessment in May 2019 and issued a serious of recommendations, both serious and regular, and provided deadlines for implementing these recommendations.

With regard to the work of all ethics board, RSAW was impressed with the volume of work members undertake, both to review protocols and to support research at the U of S, and in work with national regulatory bodies. RSAW also expressed an interest in seeing ethics training

ATTACHMENTS:

1. Annual Report of the Biomedical Ethics Board Activities – Reporting Period May 1, 2018 – April 30, 2019
2. Annual Report of the Behavioural Research Ethics Board Activities – Reporting Period May 1, 2018- April 30, 2019
3. Annual Report of the Animal Care Program and University Animal Care Committee for the Period of November 1, 2018 to October 15, 2019

TO: University of Saskatchewan Research, Scholarly and Artistic Work Committee of Council

FROM: Dr. Gordon McKay, Chair, Biomedical Research Ethics Board (Bio-REB)
Dr. Beth Davis, Vice-Chair, Biomedical Research Ethics Board (Bio-REB)
Caitlin Prebble, Human Research Ethics Specialist (Biomedical), Research Services and Ethics Office

DATE: October 24, 2019

RE: Annual Report of Biomedical Research Ethics Board Activities
Reporting Period – May 1, 2018 – April 30, 2019

The **Biomedical Research Ethics Board (Bio-REB)** is responsible for the review of all research ethics applications involving human participants that involve medically invasive procedures; physical interventions and therapies (including exercise and diet interventions), the administration and testing of drugs, natural products or devices, or physiological imaging and measures (e.g. MRI or CT scans, heart rate, blood pressure) and research projects collecting personal health information from medical charts or health records.

The purpose of an ethics review of research is to ensure the rights of the participants are respected and protected and that the procedures followed comply with ethical, scientific, methodological, medical, and legal standards.

Summary of Activities (May 1, 2018 – April 30, 2019)
The total number of active Biomedical files is approximately 1000. The attached spreadsheet describes the overall number of research studies, amendments, annual renewals and closure reports, protocol deviations/violations and unanticipated problem reports received and reviewed in the past reporting year.

Review of research
New submissions: 322 new studies were submitted for review to the Bio-REB in this reporting period. Of those, 59 (18%) were considered exempt from human ethics review, as they did not meet the definition of research as defined by the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans (TCPS2 2014). 61 (19%) of the reviewed research studies were "above minimal risk" and required full board review. 202 (63%) of the studies were considered to be of minimal risk.

Research studies that involve greater than minimal risk must be reviewed by the REB at a face-to-face meeting. The REB reviews above minimal risk studies at regularly scheduled meetings. A deadline for submission precedes each meeting by approximately two weeks.

The Chair holds the primary responsibility of reviewing minimal risk research, and consults with the Research Specialist on all delegated reviews. Delegated review refers to review and approval

by the Chair alone or with the assistance of one or more REB members or the research specialist and the Chair. The timeline for review and approval of a delegated review can be as short as 1 week for retrospective studies with no participant contact and up to 4-6 weeks for prospective minimal risk studies with participant contact. For both above minimal risk and minimal risk studies, efforts will continue to be made to increase efficiencies and to reduce further the review to approval timeline. A contributor to the timelines is the soft roll out that requires resources to enter data into UnivRS. Once fully implemented the researcher will perform this function.

Amendments to on-going studies*:* Amendments to approved studies are reviewed by either the Chair or the Vice-Chair depending on work load, complexity and risk level of the amendment. Amendments representing more than minimal risk to study participants are reviewed at a full-board meeting, according to regulatory requirements set out by Health Canada and the U.S FDA as well as the USA Office for Human Research Protection (OHRP) and the REB's Standard Operating Procedures (SOPs). Changes that are administrative in nature, do not affect the risk/benefit ratio to participants or simply update information already present in the consent are reviewed by the Chair or Vice -Chair only. There were 482 requests for delegated amendments while 27 amendments were reviewed by the full board.

For amendments requiring full-board review, all board members are able to access material relevant to the amendment via Share Point. The Vice-Chair is responsible for the presentation and review of these amendments at the meeting.

Review and re-approval of on-going studies: As per the TCPS2 2014, the REB has the discretion to set the continuing review period to any time period within the scope of one-year, depending on the nature of the study and the risk/benefit ratio, but the default period remains one year. There were 576 renewals processed through delegated review during this reporting period, while 94 renewal requests required a full board review as required specifically by sponsors, regulatory authorities and the REB's SOPs. A total of 170 studies were completed and closed during the reporting period.

There was 1 local unanticipated problem report and 63 protocol deviation/violation reports received during this reporting period. All Data Safety Monitoring Board (DSMB) reports (total number not tracked) are reviewed by the Chair of the REB and reported to the full board by way of a monthly summary report. In order to be reportable an event must be unexpected, possibly related to participation in the research and suggests that the research places research participants or others at a greater risk of harm.

Review and exemption of "Quality Assurance/Improvement" studies*:* A total of 59 submissions were deemed to be exempt from research review. Often, for example they were assessed as "Quality Assurance (Q/A) or Quality Improvement (Q/I) Studies." In addition, the Bio-REB Chair/Vice-Chair makes a determination that a project is outside the scope of research requiring review (as defined by the TCPS2 2014) via email correspondence or tele-conference several times per week, but this is only formalized into an exemption ruling when an application is submitted to the REB.

The main concern in regard to this category of projects remains unchanged from previous reporting years; while it is not usually appropriate to review these projects with a research lens, they are not all free of risk to participants nor exempt of the requirement to be conducted in an ethical manner and in keeping with the Saskatchewan Health Information Protection Act (HIPA). The REB often takes the approach of providing a number of suggestions in keeping with these requirements to accompany the exemption letter.

Harmonized Review

- In June of 2018, discussions progressed between the REBs in Saskatchewan, and full reciprocity in the province for both minimal risk and above minimal risk studies was agreed upon as of August 15, 2018 for a one year term.
- As full reciprocity was agreed upon in the province, a total of 1 research ethics application was handled through the provincial harmonized review processes in this year prior to the agreement being finalized. This represents an approximate 0.3% of all applications.
- The RSEO continues to work with administrators from the UofA and UBC under the Western harmonization of research ethics review between the three institutions. While there is a formal reciprocity agreement in place between the western provinces, more work needs to be done to facilitate ease of review across these provinces, in particular, for multi-site research.

Events in 2018-19

Audits and Monitoring*:* There were 5 audits or inspections by external agencies conducted in 2018-19. None of these involved a site audit by Health Canada. The 5 visits were all related to cancer trials. The Children's Oncology Group (COG) completed a monitoring visit in Saskatoon of 2 studies, Bio 10-192 and Bio 12-215. There were minor findings of missed observations and one consent form edit. No further action was necessary and the minor amendments were approved. The Canadian Cancer Trials Group (CCTG) conducted annual site visits in both Regina and Saskatoon of studies that the Bio-REB has ethical oversite on. In all cases the studies were shown to be in compliance and minor concerns that were raised were appropriately handled. The observations were corrected and found acceptable by CCTG and did not require any further follow up with the RSEO. The NRG Oncology quality assurance unit conducted an audit of the following studies: ABCC Bio 15-305, ABCC Bio 17-233, ABCC Bio 15-019, ABCC Bio 15-23, and requested minor additions to consent forms that were sponsor specific but had little or no impact on the risk/benefit for study participants. The changes were all processed through the RSEO amendment procedures and approved.

On May 7, 2018, all human ethics records were migrated from the Access Database into the UnivRS online system. A new numbering system was implemented for those studies submitted after May 7, 2018. Administrative processes have been updated to accommodate the new workflows in UnivRS. This has been termed a 'soft rollout' of UnivRS, as researchers are submitting electronic copies of their applications by email and the human ethics administrative team is copying the information into the UnivRS templates to process them for review by the Chair/Vice-Chair.

The Bio-REB continues to be the REB of Record for the Saskatchewan Cancer Agency. The current process involves the review of the same study at two different sites, Saskatoon and Regina, presented from two or three different administrators. The administrative work load that arises from ensuring the duplicated files are processed appropriately, yet in tandem, is considerable. This burden may lessen when the REB compliance modules become accessible to the research community in UnivRS.

Bio-REB meetings, membership and support structure:
The daily work of the Research Ethics Office for the biomedical portfolio is carried out by an ASPA II FTE and an APSA I FTE. There is also 1 CUPE FTE providing administrative support to the entire Human Ethics side of the RSEO. In addition, due to the nature of the soft rollout of the UnivRS system, extra data entry support has been required. Between May 1, 2018 and April 30, 2019 there has been between 0.2 FTE and 1.2 FTE to provide extra administrative support, and help reduce the backlog of applications requiring data entry by the ethics office.

The Bio-REB continues to meet twice per month, through two separate REB's (Bio-REB I and II). The past twelve months have seen a numbers of changes in the membership of the Bio-REB but remains fully compliant in its membership.

REB Members are volunteers, typically with a three-year appointment. The average workload of each member is a monthly meeting lasting 2 to 3 hours, with 4 to 8 hours of preparation prior to the meeting, reviews of minutes and of other issues arising post-meeting, as well as reviews of delegated research studies. The Chair and Vice-Chair with administrative assistance from the RSEO staff ensure consistency in the operations of the two REBs.

Representation on the various REBs is reasonably well distributed but as expected the majority of membership does come from the bio-sciences including, Medicine, Agriculture and Bioresources, Pharmacy and Nutrition, Veterinary Medicine and the School of Public Health. Some medical sub-disciplines continue to be inadequately represented on the REB and there is a need to recruit additional clinicians in selected areas (e.g. family medicine, oncology and medical genetics) in order to ensure a broad range of clinical expertise, manage conflicts of interest and distribute the burden of serving on the REB among all groups engaged in research. Both Bio-REB I and II meet the membership requirements of the TCPS2 2014, ICH-GCP (Health Canada, Division 5) and OHRP (US).

Educational Activities:
Institutions with research ethics boards are required by the TCPS2 2014 to ensure that REB members and staff are educated in research ethics. Bio-REB members are required to complete the TCPS2 2014 on-line tutorial and are also encouraged to complete other ethics education training modules such as those offered by the Office of Human Research Protection (OHRP) Training Module for Federal Wide Assurance Compliance, and the McMaster University Chart Review Tutorial. REB members and administrative staff require training to keep abreast of changing regulations and new developments in research ethics. How best to educate REB members continues to be a challenge. New REB members learn to review studies 'on-the-job' and by consultation with each other and the Research Ethics Office.

Research Ethics Conferences:

- PRIM&R Public Responsibility in Medicine and Research Conference in San Diego (November 15-17 2018) was attended by the ASPA I Specialist

Research Ethics and Education for the Research Community: The RSEO continues to emphasize communication and education about research ethics and integrity. A number of Canadian universities have made research ethics training mandatory for researchers doing research with human participants. At present graduate and undergraduate students submitting prospective ethics applications are required to complete the TCPS2 2014 tutorial. Graduate and undergraduate students submitting retrospective ethics applications are required to complete the McMaster Chart Review Tutorial. The University Committee on Ethics in Human Research (UCEHR) recommended extending this requirement to all researchers.

The RSEO receives specific requests from Departments, Colleges, Faculty and researchers for education and training in research ethics. Throughout the past year, Dr. Gordon McKay, Dr. Ildiko Badea, Dr. Beth Davis, Bonnie Korthuis and Caitlin Prebble met face-to-face or through tele-conference with researchers to aid in the development of research projects and to discuss ethical issues arising from research.

Research Ethics Committees (RECs)

The Bio-REB oversees only one Research Ethics Committee (REC) operating at the College level, the Kinesiology REC, which reports jointly to the Biomedical and Behavioural REBs. The Kinesiology REC submits a report annually to the Bio-REB. For this reporting period the Kinesiology REC did not have any issues to report on the 13 projects reviewed.

Success, Issues arising and challenges in the coming year:

1. The RSEO recognizes the essential contribution of its Board members and will continue to pursue opportunities to meet their educational needs and to recognize their contributions on behalf of the University.
2. The University of Saskatchewan has signed the Tri-Council MOU that requires researchers receiving funding from SSHRC, CIHR and NSERC to maintain continuous research ethics approval in order to receive their research funds. The RSEO now has a systematic process in place to ensure continuous ethics approval for the life of a research project. This process has been in full operation and has dramatically reduced non-compliant research. We will continue to monitor and hold this process in place.
3. The REB continues to work intra- and inter-provincially to explore practical solutions to REB reviews being shared across provinces, especially for multi-site research and the development of common application and consent forms to facilitate cross-provincial review. Within the province the reciprocity agreement has been revised to extend full reciprocity beyond minimal risk studies and also include above minimal risk studies establishing one REB of record for multi-institutional studies. This arrangement was agreed upon for a one year term, which will be reviewed by all parties and revised if necessary in the coming year.
4. The chair or the biomedical REB attended a national meeting to consider newer ethical practices for pediatric research undertakings. This CIHR sponsored meeting proposed to facilitate national pediatric studies through a concerted ethics approach that could be

acceptable to each provincial jurisdiction. This initiative is still underway and the Chair of the Biomedical REB is a member of the steering committee.

5. The RSEO recognizes that research dollars are sparse and has been able to hold its current fee structure, for industry-sponsored studies, the same over an extended period (7 years), however it is in the process of re-considering its fee structure to include activity related to renewals
6. There have been challenges with adopting the UnivRS on-line system in the past year. Looking into the next year, there will continue to be challenges that will be worked through with the UnivRS ICT team. Although the timeline is not confirmed, it is planned that UnivRS will go live to the research community in 2021, which will reduce the administrative (data entry) burden; however, challenges in the roll-out of UnivRS are expected.

Biomedical Annual Report
May 01, 2018 - April 30, 2019

		1	2	3	4	5	6	7	8	9	10	11	12	13
Submission Date's 2018/19	Total New Studies	Full Board Reviews	Delegated Reviews	Exempt	Full Board Amend	Delegated Amend	Full Board Renewals	Delegated Renewals	Closures	Protocol DeviationsViolations	Internal SAE's	from ABCC	Harmonized Review	CTSU
May	27	2	17	8	1	49	8	84	28	7	1	2	0	3
June	24	6	11	7	4	51	23	42	10	8	0	0	0	2
July	26	2	17	7	0	43	2	36	10	5	0	3	0	1
August	25	5	15	5	1	38	3	44	18	4	0	0	1	2
September	25	5	12	8	3	28	4	40	9	4	0	3	0	2
October	21	7	13	1	2	30	11	40	21	7	0	2	0	2
November	26	6	15	5	1	30	7	40	11	4	0	3	0	1
December	25	4	18	3	1	23	7	41	19	4	0	2	0	2
January	28	5	19	4	4	34	3	58	10	4	0	3	0	3
February	32	8	19	5	1	41	7	50	12	6	0	2	0	2
March	32	6	22	4	5	52	14	49	11	8	0	0	0	2
April	31	5	24	2	4	63	5	52	11	2	0	3	0	2
2018-19 Year Totals	**322**	**61**	**202**	**59**	**27**	**482**	**94**	**576**	**170**	**63**	**1**	**23**	**1**	**24**
2017-18 Year Totals	**331**	**65**	**173**	**93**	**28**	**427**	**86**	**695**	**158**	**31**	**2**	**21**	**11**	**34**
2016-17 Year Totals	**352**	**76**	**187**	**89**	**28**	**458**	**98**	**707**	**215**	**11**	**9**	**14**	**30**	**29**
% Change	-3%	-6%	17%	-37%	-4%	13%	9%	-17%	8%	103%	-50%	10%	-91%	-29%

NOTES:

1. Refers to review of research assessed as above minimal risk, and reviewed at a face-to-face REB meeting and is inclusive of full board delegated reviews.
2. Refers to a review by the Chair and/or one or more REB members.
3. Projects exempt from research ethics review based on TCPS2 criteria (e.g. quality assurance, secondary use of de-identified data).
4. Major amendment to an already approved study reviewed at a face-to-face REB meeting
5. Minor revisions to an already approved study reviewed by the Chair and/or one or more REB members.
6. Study renewals that require review at a face-to-face REB meeting.
7. Study renewals reviewed through the delegated review process.
8. Closures include completed protocols as well as those that are cancelled or withdrawn.
9. Unanticipated or unintentional divergence from the expected conduct of an approved study that is not consistent with the current protocol.
10. Refers to any unanticipated problem(s) that occurs involving a UofS researcher/study participant.
11. Files that we have received from Allan Blair Cancer Centre
12. Studies that are reviewed at UofS as well as either Regina Qu'applle Health Region and/or Univ. of Regina - The Usask REBs no longer perform Harmonized Reviews under the new Reciprocity Agreement. We are currently working on a way to track protocols that have gone through Reciprocity with UofR and/or SHA
13. Studies that are managed by the Clinical Trial Support Unit

Bio-REB-1 Membership Roster

BIO-REB MEMBER	TERM	AFFILIATION WITH REB	AFFILIATION WITH INSTITUTION
Dr. Gordon McKay, Chair Professor Emeritus, College of Pharmacy and Nutrition (Chair from 01-Jan-2016)	01-Nov-2015 to 30-Apr-2022	Scientific Representative	Yes
Dr. Beth Davis Research Scientist, Department of Respirology (Vice-Chair)	01-Mar-2019 To 31-Dec-2021	Scientific Representative	Yes
Dr. Ali El-Gayed* Radiation Oncology	01-Dec-2011 to 30-Nov-2019	Clinician	Yes
Dr. Don Cockcroft* Respiratory Medicine	01-Oct-2018 to 30-Sep-2021	Clinician	Yes
Dr. Haron Obaid* Medical Imaging	01-Nov-2018 to 31-Oct-2021	Clinician	Yes
Dr. Phil Chilibeck* College of Kinesiology (on leave)	01-Feb-2014 to 31-Jan-2020	Scientific Representative	Yes
Dr. Soo Kim* School of Physical Therapy	01-Oct-2016 to 30-Nov-2019	Scientific Representative	Yes
Dr. Ildiko Badea* College of Pharmacy & Nutrition	01-Jul-2012 to 31-Oct-2019	Scientific Representative	Yes
Dr. Barbara von Tigerstrom* College of Law	01-Nov-2014 to 31-Oct-2020	Legal Representative	Yes
Dr. Ibironke Odumosu-Ayanu* College of Law	01-Jan-2017 to 31-Dec-2020	Legal Representative	Yes
Anne Dooley*	01-Feb-2011 to 30-April-2020	Community Member	No
Connie Plotzki*	01-Mar-2019 To 28-Feb-2022	Community Member	No
Dr. Bryan Wiebe* Department of Philosophy	01-Dec-2015 to 30-Nov-2021	Knowledgeable in Ethics	Yes

Caitlin Prebble, Biomedical Ethics Facilitator, Research Ethics Office	08-Jun-2018 to Present	Ex officio	Yes
Shawna Weeks, Research Approval Coordinator, Saskatoon Health Region	01-Nov-2015 to 31-Oct-2021	Ex officio	Yes

(*) Members may serve as alternates on the Bio-REB-2 to meet quorum requirements.

Bio-REB-2 Membership Roster

BIO-REB MEMBER	TERM	AFFILIATION WITH REB	AFFILIATION WITH INSTITUTION
Dr. Gordon McKay, Chair Professor Emeritus, College of Pharmacy and Nutrition (Chair from 01-Jan-2016)	01-Nov-2015 to 30-Apr-2022	Scientific Representative	Yes
Dr. Beth Davis Research Scientist, Department of Respirology (Vice-Chair)	01-Mar-2019 To 31-Dec-2021	Scientific Representative	Yes
Dr. Hadi Goubran Messiha* Oncologist/Hematologist	01-Oct-2016 to 30-Sep-2019	Clinician	Yes
Dr. Sharyle Fowler* Gastroenterology	01-Nov-2018 to 31-Oct-2021	Clinician	Yes
Dr. Lori Ebbesen* College of Kinesiology	01-Nov-2008 to 31-Oct-2020	Scientific Representative	Yes
Dr. Dean Weninger*	01-Oct-2015 To 30-Sep-2021	Scientific Representative	No
Michael Wright*	01-Nov-2015 to 31-Oct-2019	Legal Representative	Yes
Leah Howie*	01-Oct-2018 to 30-Sep-2021	Legal Representative	Yes
Leslie Spokes*	01-May-2013 to 01-Sep-2019	Community Member	No
Brian Galka*	15-Mar-2017 to 14-Mar-2020	Community Member	No
Jianwei Zhao*	01-Apr-2019 to 31-Mar-2020	Community Member	No
Alex Beldan*	28-Apr-2016 to 27-Apr-2022	Knowledgeable in Ethics	No

Caitlin Prebble, Biomedical Ethics Specialist, Research Ethics Office	08-Jun-2018 to Present	Ex officio	Yes
Shawna Weeks, Research Approval Coordinator, Saskatoon Health Region	01-Nov-2015 to 31-Oct-2021	Ex officio	Yes

(*) Members may serve as alternates on the Bio-REB-1 to meet quorum requirements.

TO: University of Saskatchewan Research, Scholarly and Artistic Work Committee of Council

FROM: Diane Martz, Chair, Behavioural Research Ethics Board (Beh-REB)
Nick Reymond, Human Research Ethics Specialist (Behavioural), Research Services and Ethics Office

DATE: October 24, 2019

RE: Annual report of Behavioural Research Ethics Board Activities
Reporting period, May 1, 2018 – April 30, 2019

The Behavioural Research Ethics Board (Beh-REB) is responsible for the review of all protocols involving human participants which include social, behavioural and cultural research using methods such as interviews, surveys, questionnaires, observations, psychological, social or behavioural interventions, audio and/or video recording.

The purpose of an ethics review of research is to ensure the rights of the participants are respected and protected and that the procedures followed comply with ethical, scientific, methodological, medical, and legal standards (USask Human Research Ethics Policy (June 2013)).

Summary of Activities:
The attached spreadsheet describes the overall number of research protocols, full board reviews, delegated reviews, exemptions, annual renewals, closures, and amendments in the past reporting year. The Behavioural REB received 567 new research applications in this reporting year.

144 applications were considered exempt from human ethics review. Of these applications, 81 were reviewed for exemption based on key information where full applications were not received. Applications were deemed exempt because they did not meet the definition of research in the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans (TCPS2 2014). Submissions are determined to be exempt through consultation between the researcher and Chair or Vice Chairs.

27 applications were acknowledged, since they had already been approved by an REB at a different institution, where the preponderance of responsibility resides with that external institution. The Chair or Vice Chair will review the approved application (including evidence of approval, such as a certificate) and issue a Letter of Acknowledgement, indicating that they are satisfied that the ethical concerns have been addressed in the original review.

16 studies were deemed to be “above minimal risk” and required full board review. Decisions to approve a protocol and / or to recommend changes are by consensus of the Beh-REB at a face to face meeting.

380 protocols reviewed were designated “minimal risk” and were reviewed by a member of the Board and the Chair or Vice Chair of the Beh-REB, in what is known as a delegated review. The review timeline for delegated review of a minimal risk protocol has increased from the previous report (3 weeks) and is estimated to be 4 weeks, though the timelines can change depending on the time of year.

There were 265 requests for amendments to previously approved studies. Examples of amendments include the addition of recruitment material and changes to already approved protocols and consent forms. These requests were reviewed by the Chair or Vice Chair only, unless they were substantive enough to require full board review. The REB also received and reviewed 450 renewal requests for ongoing studies, and 241 study closure reports for studies completed during the reporting period.

Events and Opportunities in 2018-19

1. The Beh-REB received a small number of reported protocol violations/unanticipated problems. These included lost data, a student distributing an unapproved questionnaire, community partners using an unapproved cover-letter, and errant delivery of completed anonymous questionnaires to the RSEO.

2. The Beh-REB received a number of exemption requests from students for already completed projects involving datasets from the Saskatchewan Research Data Centre (SKY-RDC). While exempt due to the public nature of the data, the Beh-REB does not perform retrospective reviews. This left the students without the ability to graduate, since both their School and CGPS were requesting a letter of exemption. The BEH-RSEO, in consultation with the Academic Director of the SKY-RDC and the College of Graduate and Postdoctoral Studies, drafted and distributed a memo to communicate the exempt status of any such project, which satisfied the CGPS’s and School’s need.

3. In November 2015 an audit was conducted on the processes of the Behavioural REB. The final report from the auditor was received April 11, 2017. Fourteen recommendations were put forward. As of February 2019 the RSEO has satisfied all actionable recommendations.

4. In December 2018, the RSEO received an email from a University of Saskatchewan student regarding an online survey advertised through PAWS. The student identified herself as Indigenous and expressed strong concern regarding the content of the survey which she found to present a racist image of Indigenous People in Canada. The study had REB approval and was investigating the social and cultural determinants of Indigenous peoples’ physical activities levels. When approved, the study met the REB’s requirements for Indigenous Engagement, as mandated by the TCPS2, since it had an

Indigenous PI and an Indigenous Advisory Committee. The Chair consulted with the Indigenous members of the REB, who collectively found that the research itself and its conduct adhered to the ethical mandates of the TCPS2. The student had previously made the same complaint about a different project in March 2018. The Chair also met with the Principal Investigator, and the then Acting Chair met with the student.

Behavioral REB Support Structure and Membership:
During 2018 and 2019, the daily work of the Beh-REB was carried out by one ASPA II FTE, and one ASPA I FTE. Another ASPA I position shared with the Biomedical REB used to provide additional support, but this position no longer exists due to budgetary decisions. There is also 1 CUPE FTE who provided administrative support to the entire Human Ethics side of the RSEO. Until the ethics model in UnivRS is ready for roll out to researchers, we need to devote scarce resources to the data-entry function. In particular, extra staff are required to input the content of Human Ethics applications, submitted as Word documents via email, into UnivRS. Due to financial constraints, that support has fluctuated from 0.2 to 1.2 CUPE FTE during the reporting period.

Beh-REB Chair and Vice-Chairs roles were held by the following individuals during the reporting period:

- Dr. Diane Martz
    - Chair from Apr. 4, 2019 to end of reporting period
    - Interim Chair from Aug. 28, 2018 to Dec. 31, 2018
- Dr. Vivian R Ramsden
    - Vice Chair from Apr. 4, 2019 to end of reporting period
    - Acting Chair from Jan. 1, 2019 to Apr. 3, 2019
- Dr. Stephanie Martin (Vice Chair) from Jan. 1, 2019 to end of reporting period
- Patricia Simonson (Vice Chair) from Aug. 31, 2018 to end of reporting period
- Dr. Brian Chartier (Interim Chair) from Aug. 1, 2018 to Aug 27, 2018
- Dr. Scott Bell (Chair) from Jan. 1, 2018 to Jul. 31, 2018

The Behavioral REB has members from the following colleges and departments:

- College of Arts and Science (Psychology, Indigenous Studies, Geography & Planning)
- College of Education (Educational Psychology, Educational Administration)
- College of Medicine (Academic Family Medicine)
- College of Nursing
- Edwards School of Business
- School of Public Health
- Canadian Centre for Health and Safety in Agriculture

The Behavioral REB has five members from the community, one of whom fills the required role as the member knowledgeable in ethics. Overall the BEH REB has a good complement of members, but is mindful of ensuring that its membership reflects research activity on campus in subject matter and methodology.

Research Ethics Committees
The following departments/colleges have active Research Ethics Committees (REC) that report to the Beh-REB.

1. Department of Psychology
2. Edwards School of Business
3. College of Kinesiology (joint with the Biomedical REB)

All RECs submit annual reports to the Beh-REB by end of July.

Research Ethics Education for REB Members:
Institutions with REBs are required by the TCPS2 to ensure that REB members are educated in research ethics. REB members and administrative staff require training to keep abreast of changing regulations and new developments in research ethics. The Research Ethics Office educates and trains new members as they join the Beh-REB. New REB members learn protocol review on-the-job and by consultation with each other and the Research Ethics Office.

Research Ethics Conferences

- Public Responsibility in Medicine and Research (PRIM&R) in San Diego (November, 2018) was attended by the Chair.
- Canadian Association of Research Ethics Boards (CAREB) in Winnipeg (April 2019) was attended by the Chair and the Ethics Coordinator.
- The REB West conference in Kelowna (June 2019) was attended by the RSEO Associate Director, the Ethics Specialist, and the Ethics Administrator.

Research Ethics Education for the Research Community:
The RSEO continues to emphasize communication and education regarding research ethics and integrity. A number of Canadian universities have made research ethics training mandatory for researchers doing research with human participants. At present graduate, undergraduate students and staff involved in submitting ethics applications are required to complete the TCPS2 On-Line Tutorial.

The RSEO receives specific requests from Departments, Colleges, Faculty and researchers for education and training in research ethics. RSEO staff made educational p resentations on REB processes, human research ethics issues and academic integrity to more than 400 members of the campus community. The units visited are listed in the table below, some units received multiple presentations.

RSEO Presentations and Workshops - Class / Dept / School / College 2018-19	
Indigenous Studies	Edwards School of Business
Dentistry	Surgery Residents

Medical Residents	FYRE
Education	Mechanical Engineering
School of Public Health	Internal Medicine
Kinesiology	Women's and Gender Studies
Nursing	Educational Foundations
Computer Science	SENS
TOTAL ATTENDANCE ~400	

Additional Educational Activities

Members of the Beh-REB and RSEO Staff have had many face-to-face meetings last year with researchers and students to discuss potential research projects involving human participants.

Initiatives in the coming year:

- On-going is the Research Administration System: The Beh-REB began to use the compliance module for processing ethics applications at the end of May 2018. The next step will be the expansion of the module so that researchers can submit their application online through UnivRS. The timeline for this is TBD.
- Establish regular monthly workshops for faculty and students providing an introduction to submitting an ethics application and focused advice on draft applications.
- Update the consent form template to provide better guidance to researchers
- Continue to work to improve communication between the Beh-REB and the research community.
- Continue to work to increase visibility and recognition for the critical work done by Beh-REB members on behalf of the University. The work done by REB Members is essential to the University of Saskatchewan as it continues to develop its research capacity.

May 1, 2018 - April 30, 2019	Protocols Submitted	1 Full Board Reviews	2 Delegated Reviews	3 Exempt	4 Acknowledged	5 Renewed	6 Amendment	7 Closed
May	61	2	45	12	2	53	15	27
June	41	0	33	7	1	24	21	14
July	43	0	25	15	3	27	22	15
August	52	2	34	14	2	39	27	20
September	25	0	18	6	1	40	23	31
October	34	3	23	3	5	41	27	17
November	65	4	34	24	3	28	16	12
December	26	0	19	4	3	25	16	16
January	58	1	41	16	0	39	28	22
February	45	1	28	13	3	36	21	22
March	66	2	45	16	3	55	23	22
April	51	1	35	14	1	43	26	23
2018/2019	**567**	**16**	**380**	**144**	**27**	**450**	**265**	**241**
May 2017 - Apr 2018	454	17	353	84	29	412	220	234
May 2016 - Apr 2017	457	9	358	90	44	456	192	293
% Change	25%	-6%	8%	71%	-7%	9%	20%	3%

Notes:

1. Full Board Review - Refers to the review of "above minimal risk" protocols by the full Beh-REB. These include Full Board Delegated.

2. Delegated Review - Refers to the review of "minimal risk" protocols by an Beh-REB subcommittee.

3. Exempt from review reflects the protocols that are deemed exempt after ethical review by the Beh-REB, based on the TCPS (e.g. quality assurance, secondary use of anonymous data)

4. Acknowledged - Refers to minimal risk protocols approved by another REB where Usask review would be redundant.

5. The Annual Renewals column denotes those files that remain active.

6. Amendments - Refers to modifications made to previously approved projects that have been submitted for review.

7. Closed - Studies that have been finished and file closed

The Usask REBs no longer perform Harmonized Reviews under the new Reciprocity Agreement - We are currently working on a way to track protocols that have gone through Reciprocity with UofR and/or SHA

UNIVERSITY OF SASKATCHEWAN

Behavioural Research Ethics Board (Beh-REB)
Research Services & Ethics Office, University of Saskatchewan
Version Date: April 2019

Beh-REB Membership Roster

Beh-REB Member	Term	Affiliation with REB	Affiliation with U of S
Dr. Diane Martz, Chair	04 April 2019 – 31 Dec 2021	Behavioural Research Representative	Yes
Dr. Vivian Ramsden, Vice-Chair Academic Family Medicine	01 Aug 2005 – 30 Jun 2019	Behavioural Research Representative	Yes
Rev. Patricia Simonson, Vice-Chair	01 June 2010 – 31 Aug 2021	Ethicist	No
Dr. Stephanie Martin, Vice-Chair College of Education	01 Sept 2004 - 31 Dec 2020	Behavioural Research Representative	Yes
Dr. Jamie Campbell Department of Psychology	01 Jul 2007 - 01 Aug 2019	Behavioural Research Representative	Yes
Dr. Marjorie Delbaere Edwards School of Business	01 Sept 2014 - 01 Sept 2020	Behavioural Research Representative	Yes
Dr. Mary Heilman	01 Jan 2018 – 31 Dec 2020	Ethicist	No
Dr. Pammla Petrucka College of Nursing	01 Jan 2010 – 31 Dec 2021	Behavioural Research Representative	Yes
Dr. Holly Graham College of Nursing	01 Sept 2015 - 01 Sept 2021	Behavioural Research Representative	Yes
Dr. Bonita Beatty Department of Indigenous Studies	01 Sept 2015 - 01 Sept 2021	Behavioural Research Representative	Yes
Shawna Weeks, Interprofessional Practice, Education & Research, Saskatchewan Health Authority	01 Oct 2015 - 01 Oct 2021	Community Member	Yes
Dr. Michael Szafron School of Public Health	01 Sept 2017 - 01 Sept 2020	Behavioural Research Representative	Yes
Dr. Melanie Kirsten Bayly Canadian Centre for Health and Safety in Agriculture	01 April 2018 – 01 April 2021	Behavioural Research Representative	Yes
Leslie Widdifield-Konkin	01 Oct 2018 – 01 Oct 2021	Community Member	No
Dr. Scott Tunison College of Education	10 Dec 2018 – 31 Dec 2021	Behavioural Research Representative	Yes
Nick Reymond, Behavioural Research Ethics Specialist	Feb 2018 to present	Research Services and Ethics Office, non-voting member	Yes
Joni Aschim, Behavioural Research Ethics Coordinator	March 2016 to present	Research Services and Ethics Office, non-voting member	Yes

UNIVERSITY OF SASKATCHEWAN

Version Date: Oct 2019

Behavioural Research Ethics Board Membership Roster

Beh-REB Member	Term	Affiliation with REB	UofS Affiliation
Dr. Diane Martz, Chair	04 April 2019 – 31 Dec 2021	Behavioural Research Representative	Yes
Dr. Vivian Ramsden, Vice-Chair Academic Family Medicine	01 Aug 2005 – 31 Dec 2021	Behavioural Research Representative	Yes
Rev. Patricia Simonson, Vice-Chair	01 June 2010 – 31 Aug 2021	Ethicist	No
Dr. Stephanie Martin, Vice-Chair College of Education	01 Sept 2004 - 31 Dec 2020	Behavioural Research Representative	Yes
Dr. Jamie Campbell Department of Psychology (On Sabbatical 01-Aug-2019 to 31-Dec-2019)	01 Jul 2007 - 01 Aug 2022	Behavioural Research Representative	Yes
Dr. Marjorie Delbaere Edwards School of Business	01 Sept 2014 - 01 Sept 2020	Behavioural Research Representative	Yes
Dr. Mary Heilman	01 Jan 2018 – 31 Dec 2020	Ethicist	No
Dr. Pammla Petrucka College of Nursing	01 Jan 2010 – 31 Dec 2021	Behavioural Research Representative	Yes
Dr. Holly Graham College of Nursing	01 Sept 2015 - 01 Sept 2021	Behavioural Research Representative	Yes
Dr. Bonita Beatty Department of Indigenous Studies	01 Sept 2015 - 01 Sept 2021	Behavioural Research Representative	Yes
Shawna Weeks, Interprofessional Practice, Education & Research, Saskatchewan Health Authority	01 Oct 2015 - 01 Oct 2021	Community Member	No
Dr. Michael Szafron School of Public Health	01 Sept 2017 - 01 Sept 2020	Behavioural Research Representative	Yes
Dr. Melanie Kirsten Bayly Canadian Centre for Health and Safety in Agriculture	01 April 2018 – 01 April 2021	Research Representative	Yes
Leslie Widdifield-Konkin	01 Oct 2018 – 01 Oct 2021	Community Member	No
Dr. Scott Tunison College of Education	10 Dec 2018 – 31 Dec 2021	Behavioural Research Representative	Yes
Dr. Karen Lawson Department of Psychology	01 Sept 2019 – 01 Sept 2022	Behavioural Research Representative	Yes
David Katz	01 Sept 2019 – 01 Sept 2022	Community Member	No
Dr. Robert Patrick, Department of Geography & Planning & School of Environment & Sustainability	10 Sept 2019 – 10 Sept 2022	Behavioural Research Representative	Yes

UNIVERSITY OF SASKATCHEWAN

Version Date: Oct 2019

Behavioural Research Ethics Board Membership Roster

Dr. Robert Henry Dept. of Indigenous Studies	01 Oct 2019 – 01 Oct 2022	Behavioural Research Representative	Yes
Nick Reymond, Behavioural Research Ethics Specialist	Feb 2018 to present	Research Services and Ethics Office, non-voting member	Yes
Joni Aschim, Behavioural Research Ethics Coordinator	March 2016 to present	Research Services and Ethics Office, non-voting member	Yes

Annual Report of the Animal Care and Use Program and University Animal Care Committee to the Research, Scholarly and Artistic Work Committee of Council for the Period November 1, 2018 to October 15, 2019

The University Animal Care Committee (UACC) Chair and University Veterinarian are pleased to provide the following overview of the key accomplishments and activities of the Animal Ethics and UACC for the period November 1, 2018 to October 15, 2019.

OVERVIEW of the RESPONSIBILITIES OF THE UNIVERSITY ANIMAL CARE COMMITTEE

The UACC must review Animal Use Protocols (AUPs) and approve any use of animals for research, teaching, production, and testing before animal use is initiated. The UACC ensures animal welfare, animal user training, scientific and pedagogical merit review, adequate veterinary care, adequate animal facilities, animal user environmental safety, and best practices to comply with USask Policy, Canadian Council on Animal Care (CCAC) guidelines, and international, federal, provincial, and local regulations. UACC Policy reflects the perspective of USask which views the use of animals in research, teaching, production, and testing as a privilege. USask is committed to ensuring that all animal care and use is conducted with exemplary standards which is critical for high quality research.

The UACC receives administrative support from the Research Services and Ethics Office (RSEO) Animal Ethics (AE) staff. The Animal Ethics Office is directed by the University Veterinarian and includes the following units:

- UACC Administrative Support
- UACC Animal Technicians
- UACC Clinical Veterinarians
- Animal Care Services

SUMMARY OF ACTIVITIES (November 1, 2018 to October 15, 2019)

Review of research protocols, modifications, and renewals

There are currently 463 active U of S Animal Use Protocols, 13 (2.8%) of which are “Category of Invasiveness E”, the highest level of invasiveness defined by the CCAC. The UACC serves approximately 211 investigators on campus.

Ongoing development of UnivRS Animal Ethics Module and integration with the Animal Order Desk

The University Research System (UnivRS) is a single web-based system that provides researchers a secure space to collaborate on research projects and serves as a central repository to manage all project funding and compliance activities.

The UnivRS Animal Ethics module remains under development for submission, routing, and ethical review of Animal Use Protocols (AUP). Little progress was made in the past year with respect to its implementation, however development has resumed and the module is expected to launch in 2020. The module is expected to streamline and automate the processing of all aspects of AUP review as well as animal ordering and tracking.

Enhancing Service

University Animal Care Committee Procedures

Animal Research Ethics Board meeting frequency: The AREB, a subcommittee of the UACC, meets twice monthly since 2018 to reduce turnaround time for animal use protocol review, better accommodate contract research, and reduce the length of meetings.

Pre-review of AUPs by the UACC Chair, the University Veterinarian, and the Animal Research Ethics Specialist continues to facilitate AUP development and enhance the quality of AUPs prior to full committee review.

Pedagogical Merit Review (PMR) of Teaching and Training AUPs: A new committee was formed and began reviewing teaching protocols for pedagogical merit in January 2019. The CCAC-mandated Committee reports through the Office of the Vice Provost for Teaching, Learning, and Student Experience. At their 2019 Site Assessment, CCAC noted that the PMR process was robust and strongly aligned with CCAC standards.

Participation in the *UofS Live Animal Re-Use and Tissue Share Program* has increased again this year, facilitated through a new online user Sharepoint site. Through this program, investigators donate surplus or control animals to be used by recipient investigators for training or experiments.

The UACC Chair's term will end on December 31, 2019. A search is ongoing for a new UACC Chair.

Animal Ethics Office Restructuring

The UACC Chair and University Veterinarian now report to Dr. Irena Creed, who assumed the position of Associate VPR in September 2019. The University Veterinarian and Director, Animal Ethics has horizontal accountability to the Director of Research Services and Ethics office since July 2019. The Animal Ethics Office remains under the umbrella of Research Services and Ethics Office.

Animal Ethics continues to modify its organizational structure and increase staffing to streamline human resources and animal facility operations, reduce conflict of interest, ensure dedicated animal care staffing for all facilities, ensure adequate weekend and holiday staffing of animal facilities, and increase researcher support. This is also in response to two Serious Recommendations resulting from our May 2019 CCAC Site Assessment.

- Bridget Gray was hired in January 2019 to replace Melanie Gibbons as UACC Clinical Veterinarian.
- 2.0 FTE Animal Technicians were hired to provide animal care services to Aquatic Toxicology Research Facility. These technicians were previously hired on as non-unionized research technicians and reported through the Toxicology Centre.
- A search is ongoing for a 1.0 FTE Assistant Manager for Aquatics facilities, who will report to the Animal Care Services Manager.
- 6.0 FTE new positions are requested from upper administration in order to fulfill compliance obligations, particularly with respect to Post-Approval Review which requires an additional veterinarian.

Michele Moroz assumed Facility Management of the RJF Smith Centre for Aquatic Ecology in Spring 2019. 0.5 FTE ACS staff perform daily animal care and compliance duties to assist researchers.

Animal Order Desk

The Animal Order Desk tracked roughly 150,000 animals in 2019 and will submits these numbers, as they do annually, listed with AUP number, category of animal use, and lay summary for all 463 active protocols. This is a large feat for the number of Animal Ethics staff. Animal Ordering is centralized through RSEO to reduce costs by amalgamating animal orders, to track animal numbers for CCAC reporting, and to facilitate the acquisition of export/import permits. Animal orders total $450-500,000 annually.

Aquatics Program

The Aquatics Program is undergoing review and restructuring in response to Serious Recommendations from the 2019 CCAC Site Assessment. RJF Smith Centre for Aquatic Ecology has serious facility deficiencies that require funding if they are to be addressed. ATRF is now fully staffed (Manager/Senior Aquatics Advisor plus 2.0 FTE Animal technicians) by Animal Ethics Office and this is expected to facilitate harmonization of aquatic programs and ensure compliance.

Other aquatic facilities are small and compliant. The WCVM is planning to install a new aquaculture system in WCVM Animal Care Unit. Our quarantine facilities continue to operate effectively. The new CSRB Vivarium was commissioned in 2019 and provides increased aquatics capacity as well as housing for small wild mammals.

Animal User Training Opportunities

- Rodent handling, surgery, and anesthesia practical skills training continue to be offered at least monthly.
- A Fish User Training Practical Skills Course is now offered monthly.
- Animal Ethics staff continue to offer specialized practical skills training by request.
- Animal Ethics staff deliver animal handling laboratories to VLAC 211 students
- The University Veterinarian lectures in AnBIO and first year veterinary classes.

Facility Expansion and Development

The UACC Veterinarians and animal facility managers actively engage in planning and design of new vivaria across campus, providing input to optimize facility operations and workflow, optimize biocontainment, ensure compliance with CCAC guidelines, and advise on species-specific requirements. For the referenced time period, input was provided on the following projects:

- WCVM Flight Cage facility;
- WCVM Cancer Centre addition;
- WCVM PET/CT wing addition;
- WCVM/Livestock & Forage Centre of Excellence (LFCE); and
- LFCE Phase II: Goodale Farm Renovations (Design Working Group; Steering Committee).

The University Veterinarian is a member of the LFCE Steering Committee, the Goodale Farm Steering Committees, and the Museum of Natural Sciences Steering Committee. The Animal Care Services Manager is a member of the MNS Steering Committee.

Per diems are now charged for animal husbandry in CSRB and RJF Smith Centre for Aquatic Ecology; however there are balances outstanding in certain cases. Animal Care Staff salaries are funded separately by OVPR, i.e. they are not recovered through *per diems.*

Crisis Management Planning

In response to recommendations from the 2016 CCAC site assessment and changing international expectations, a Crisis Management Plan (CMP) template was developed for animal facilities in 2018 and implemented in 2019; review of the animal facility-specific plans is ongoing. The Facility CMPs are integrated with the overall campus Emergency Response Plan through the University Veterinarian membership on the USask Crisis Operations Team.

The Crisis Operations Team met weekly for a period of approximately 8 months to prepare for a possible CUPE Union Strike. The University Veterinarian, WCVM Dean, College of Agriculture Dean, and others testified before the Labour Relations Board during Tribunal Hearings to request that Animal Care Staff were deemed "Essential". The Tribunal determined that current legislation considers animals to be property and as such, animal care staff were not considered essential. Various university administrators, the University Veterinarian, and the UACC Chair will continue to pursue this ruling to ensure that Animal Care Staff are declared essential during any future strike.

Training Initiatives for Laboratory Animal Veterinarians

As mentioned in previous years, USask offers many unique opportunities to engage students in laboratory animal medicine and research. Its diverse research programs, broad aquatics program, well-established veterinary pathology program, and unique, state-of-the-art facilities such as Vaccine and Infectious Disease Organization (VIDO)-Intervac (an elevated biocontainment facility), the Canadian Light Source, and the Saskatchewan Centre for Cyclotron Sciences offer ample opportunities and strength of experience for students interested in laboratory animal medicine and research. As such, the Animal Ethics group intends to promote student engagement as follows:

- *Laboratory Animal Residency Program (under development)* in collaboration with the WCVM; driven by the University Veterinarian and Dr. Elemir Simko, Veterinary Pathologist. Residents will, by the end of the program, qualify to sit for the board certification examination offered by the American College of Laboratory Animal Medicine (ACLAM). The program was delayed by more immediate priorities but a request for official recognition by ACLAM will be made within the next 6 months.
- *Laboratory Animal Medicine Rotation:* A 2 week long fourth year veterinary student rotation is now offered through Animal Ethics Office. Four students have participated since its implementation in Summer 2019. Students learn about laboratory animal medicine, a board specialty, by participating in clinical veterinary care, surgery, anesthesia, compliance activities, AUP review, animal facility management, research support activities, animal user training, and diagnostics activities.
- *Laboratory Animal Residency Externships:* A Comparative Medicine (laboratory animal medicine) Veterinary Resident visited the Animal Ethics Office to conduct a 3 week externship in Laboratory Animal Medicine under the supervision of the University Veterinarian and the UACC Clinical Veterinarians.
- *Laboratory Animal Medicine Club (for Veterinary Students):* Our UACC Clinical Veterinarian interacted frequently with this group in 2018-2019 to foster student interest and knowledge in laboratory animal medicine and to enhance their chance of acceptance into laboratory animal residencies upon graduation from vet school. We have offered hands-on laboratory animal workshops for this group through the Animal Ethics training program and one-on-one or group discussions with regards to future training and career options in laboratory animal medicine.

International and Community Engagement

Animal Ethics staff have initiated, coordinated, or collaborated in the development of several activities that will place a very positive international or national spotlight on the U of S Animal Care Program.

Workshop on the Animal-Human Relationship
Amanda Plante and the UACC Chair, Jane Alcorn, developed a novel workshop to explore diverse aspects of the animal-human relationship. The objective was to bring together researchers, research administrators, the general public, and not-for-profit organizations in a community space to learn and share their diverse experiences. The workshop will be held October 18 and 19, 2019, with hopes to repeat the workshop every two years. Speakers include Indigenous speakers, internationally renowned researchers, and agrarians. *(Core Strengths, Indigenous Engagement)*

Canadian Association for Laboratory Animal Science National Conference
The annual CALAS conference will be held in Saskatoon in 2022. Planning is already underway, led by Michele Moroz, Animal Care Services Manager.

CCAC Assessment Panel
The UACC chair, Jane Alcorn, DVM, PhD, and the University Veterinarian remain actively involved in the CCAC. Dr. Alcorn participated in a CCAC site assessment of the University of British Columbia in 2019. Dr. Kashuba participated in a CCAC Assessment of UPEI in 2018.

CCAC Site Assessment, 2019

The CCAC conducts full site assessments every six years to ensure compliance with CCAC guidelines and support institutions in achieving best practices in animal ethics and care. Their standards are CCAC policy statements, guidelines documents, and other CCAC-recognized standards designed to promote the ethical use and care of animals in science.

The CCAC conducted a full site assessment in May 2019. The following commendations and recommendations were issued in the 2019 CCAC Site Assessment Report:

SERIOUS RECOMMENDATIONS

(Apply to significant or long-standing weaknesses in the animal ethics and care program. The measures taken and planned in response to these recommendations must be provided to the CCAC, typically within three months of the institution receiving the written recommendations.)

Due date for response: December 13, 2019

1. That in an effort to further harmonize good animal practices, procedures and services collaboratively across all components of University of Saskatchewan's large, complex and multi-species animal ethics and care program, senior administration carefully assess the current level of professional, technical and support staffing, and bring staffing to appropriate levels. That as part of this process, a formal and documented post-approval review program be appropriately resourced and staffed to help identify and mitigate risks to animal health and welfare, and sufficient resources be available for the transition, implementation, and ongoing support of the new protocol management platform.

2. That initiatives to harmonize good animal practices, procedures and services collaboratively across all aquatic laboratories be fully supported and implemented. That as part of this process, appropriate oversight and accountability be established in the dedicated aquatic facilities to optimize research needs and animal welfare.

REGULAR RECOMMENDATIONS

(Apply to weaknesses in the animal ethics and care program. The measures taken and planned in response to these recommendations must be provided to the CCAC within six months of the institution receiving the written recommendations.)

Due date for response: March 13, 2020

1. That all animal ethics and care program documents, including policies, Terms of Reference, UACC Procedures and SOPs be reviewed and revised on a regular basis. Specifically, that the UACC terms of reference be revised to ensure that U of S guidance aligns with CCAC policy with regard to term limits for UACC members and definitions of minor and major amendments.

2. That with regard to annual site visits to all animal housing and procedure areas:
    a. every AREB member participate in at least one site visit a year;
    b. site visit reports be written and sent to facility contacts in a timely manner;
    c. responses to recommendations be sent by facilities to the UACC within the prescribed timelines; and
    d. updates on responses be shared with the UACC on a regular basis.

3. That the senior administration ensure:
    a. ongoing infrastructure maintenance and upgrade programs be in place for animal housing and procedure areas. That in particular, surfaces such as floors, ceilings, millwork, shelves and walls be non-porous, and easily cleaned and sanitized;
    b. animal-based risks are identified and covered under the institutional environmental health and safety program;
    c. a humane vermin control program across all facilities;
    d. adequate biosecurity measures be implemented.

4. That the animal ethics and care program be refined to:
    a. implement processes to ensure that animal records (e.g., AUP, SOP, endpoints) are in close proximity to the animals and can be easily accessed at all times;
    b. maintain environmental parameters and air change rates within CCAC's guidelines;
    c. harmonize animal health record keeping and reporting among all facilities to ensure consistency and good communication between research team members and veterinary/animal care personnel;
    d. ensure social animals are group-housed or justification is given for single housing; and
    e. ensure housing and husbandry conditions for production animals that are or may be used for research, teaching or testing meet CCAC standards.

COMMENDATIONS

(Apply to excellent conditions, practices or personnel in an animal ethics and care program.)

1. That the Senior Administration of the University of Saskatchewan, in particular the Vice-President Research and the Assistant Vice-President Research, be commended for their strong support of the animal ethics and

care program, including the hiring of key personnel and the significant investment in facility upgrades and new infrastructure since the last CCAC visit.

2. That the chairs and members of the University Animal Care Committee (UACC) and its subcommittees be commended for their dedication to animal welfare and to the animal ethics and care program.

3. That the University Veterinarian and the Research Ethics Specialist be commended for their leadership and contributions to the program and commitment to the functioning of the UACC and its subcommittees.

4. That the UACC Clinical Veterinarians, the Facility Veterinarians, directors and managers of animal care facilities, animal care staff, and Research Services and Ethics Office personnel be commended for their dedication to animal welfare, to the animal ethics and care program and to providing excellent services to animal users.

The recommendations align with the existing strategic vision of the UACC and Animal Ethics, are viewed as affirmation of our existing goals, and will serve to support needed change. The University Veterinarian will work with the UACC Chair and the various USask shareholders, including the OVPR, to respond to these recommendations over the next three to six months.

AGENDA ITEM NO: 14.1

UNIVERSITY COUNCIL

TEACHING LEARNING AND ACADEMIC RESOURCES COMMITTEE

NOTICE OF MOTION

PRESENTED BY: Vince Bruni-Bossio, Chair, Teaching, Learning and Academic Resources Committee of Council
Patti McDougall, Vice Provost Teaching, Learning and Student Experience

DATE OF MEETING: November 21, 2019

SUBJECT: **Student Learning Experience Feedback Policy**

NOTICE OF MOTION: *It is recommended:*

That Council approve the Student Learning Experience Feedback Policy

CONTEXT:
For six years the Teaching, Learning and Academic Resources Committee (TLARC) of Council has been advancing work related to teaching quality and its enhancement. Work on a policy related to student evaluations began in 2013 but was paused in 2015 in order to engage a working group of faculty, students, and staff to undertake a principles-based process to select a new instrument and system for collection of feedback on student learning experiences. After approval of the Student Learning Experience Questionnaire (SLEQ) in 2018, TLARC returned to development of a policy to frame the purpose, principles, and responsibilities related to the generation and use of student feedback as well as the procedures that would be used to guide administration of the SLEQ.

PURPOSE:
The Student Learning Experience Feedback policy document is intentionally high level, broad and applicable institution wide, regardless of the instrument being used. It is presented for approval by University Council. The procedures document is intended to guide implementation of our centrally supported student feedback instrument, the SLEQ and is presented for information and to provide additional context to the policy document.

This work has been advanced by a working group of TLARC with membership from across the institution. Working group members have included Alison Muri, Jim Greer, Jay Wilson, Trish Dowling, Marcel D'Eon, Aaron Pheonix, Chelsea Willness,

Marie Battiste, Sean Maw, as well as a number of USSU and GSA representatives, the Vice Provost Teaching, Learning and Student Experience and the Director, Teaching and Learning Enhancement.

CONSULTATION:

Throughout the development of the policy document, consultations have been undertaken. The list of those consulted includes:

- Joint Committee for the Management of the Agreement (JCMA)
- Associate Deans Academic
- Department Heads and/or Undergraduate Chairs and/or Chairs of Curriculum Committees currently using SLEQ
- Departmental Administrators currently using SLEQ
- Policy Oversight Committee
- USSU and GSA executives

SUMMARY:

These documents are important in providing clarity regarding the purpose, principles, responsibilities and procedures related to the generation and use of student feedback.

ATTACHMENT:

1. Student Learning Experience Feedback Policy
2. Student Learning Experience Feedback Procedures (for information)

Policy on Student Learning Experience Feedback within Courses

Responsibility: University Council
Authorization: University Council
Approval Date: xxxx

Purpose

The University of Saskatchewan is committed to excellence in teaching, academic programming and students' learning experiences. The university is committed to gathering feedback on a regular basis from students on their learning experience for the purpose of the enhancement of teaching and learning. The purpose of gathering student feedback is both formative (i.e., for the educator's personal use to improve teaching practice and students' learning) and summative (i.e., available as one component contributing to assessment of teaching quality through collegial and administrative processes). In addition, there is value in using aggregate information (aggregated across educators or across courses) for planning and programming purposes. Student feedback is thus one part of an overall teaching quality framework that also includes regular peer review, self-assessment, collegial processes and other forms of assessment as appropriate to inform ongoing quality enhancement. The information received from students is thus beneficial for educators, administrators and the institution, and enables students to engage in a meaningful reflection on their experiences. This policy document on course-related student learning experience feedback flows out of and acknowledges educator and university community commitments made in the University of Saskatchewan Learning Charter.

Principles

This document is predicated on the ideals that:

- Educators seek feedback in their teaching and can use this feedback to enhance teaching and learning practice.
- Students want to provide feedback on their learning experiences.
- Feedback is collected, in part, to improve program quality and the quality of student learning.
- The rights and dignity of both educators and students shall be protected in the process of gathering student learning experience feedback and the reporting of results.
- The instruments that gather student learning experience feedback must be valid and reliable and must be approved by the college faculty council or department where such authority has been appropriately delegated to a department.
- The processes of gathering student learning experience feedback shall be fair and transparent; the processes should be explicit and understood at the outset by educators and students.
- Student learning experience feedback may be used as one part of a portfolio of evidence of teaching quality; interpretation of numeric results and weight given to qualitative responses shall be fair and transparent.
- Feedback is most usable for an educator when it is provided in a timely manner; feedback provided to an educator mid-course can be used to improve the learning experience of the students providing it.

Policy Statement

1. Under typical circumstances, feedback will be gathered for each undergraduate and graduate course each time it is offered. Such feedback is not limited to formal student learning experience feedback.
2. Where classes are taught by multiple educators, feedback for each educator will be gathered.
3. Educators will have the ability to add personalized questions to mid- and end-of-course questionnaires with responses to these questions available only to the educator.
4. SLEQ feedback from end-of-course questionnaires are to be released:
   4.1 to educators after final grades are approved by academic administrators (department heads or deans in non-departmentalized colleges or their delegates). Feedback from mid-course questionnaires will be released to only the educator and as soon as possible after the questionnaire close date.
   4.2 to academic administrators according to the guidelines developed and approved by the department/college.
5. All student learning experience feedback shall be confidential. Results will be provided to educators and academic leaders and their delegates in a form that creates anonymity of the student providing feedback unless the student chooses otherwise.
6. It is recognized that student learning experience data will be used in multiple ways and presented in different forms to fulfill specific purposes. As such:
   6.1 End-of-course numerical and written feedback may be used by educators, department heads and/or deans or their delegates to inform conversations regarding ongoing enhancement of teaching practice.
   6.2 End-of-course numerical and written feedback may be used in personnel related decisions (e.g. renewal, tenure, promotion).
   6.3 Mid- and end-of-course numerical and written feedback may be used in aggregate, eliminating the potential for identification of any individual educator activities, to inform activities such as ongoing curriculum and teaching and learning enhancement endeavours.
   6.4 Mid- and end-of-course numerical and written feedback may be used in aggregate, eliminating the potential for identification of any individual educator activities, in ongoing student learning experience instrument development.
7. The Vice Provost Teaching, Learning and Student Experience will be the data trustee of all student learning experience data.

Responsibilities

Institution:

- Oversee the implementation and maintenance of this policy
- Manage and coordinate the administration of the on-line instrument and support a platform for the University Council approved instrument in line with Procedures for Student Learning Experience Feedback
- Provide support and education to university community members regarding the interpretation, use and value of student learning experience feedback
- Ensure processes and this policy comply with other pertinent university policies (e.g., Academic Courses Policy, Academic Conduct Guidelines)

Colleges and Departments:

- Develop student learning experience feedback guidelines that reflect this policy. These guidelines will include (but are not limited to) information about how student learning experience feedback is gathered (e.g., who is responsible for setting up the gathering of feedback for a course), how frequently feedback will be collected (e.g., will feedback be gathered on all courses in the college/department each term), how feedback is to be reviewed (e.g., is individual data to be reviewed regularly by a department head), and how feedback might be used by educators and academic leaders and their delegates (e.g., for program enhancement purposes)
- Undertake the development of college, department, and/or program specific items for the student learning experience questionnaire as it relates to program enhancement
- Manage the administration of student learning experience questionnaires within the college/department

Academic Leaders (school or department heads or deans in non-departmentalized colleges):

- Ensure administrative resources are available for administration of student learning experience questionnaires
- Use student learning experience feedback appropriately, recognizing its benefits and limitations
- Act as data stewards of quantitative and qualitative student feedback from end-of-course questionnaires
- When undertaken, oversee review of end-of-course student feedback as a component of the assessment of teaching quality
- Act within the spirit and intent of this policy and college guidelines for interpreting student feedback data

Educators:

- Act as data custodians of their own quantitative and qualitative student feedback, in particular mid-course questionnaires and educator developed questions, which are not shared with academic leaders
- Honor and maintain student anonymity in the collection and use of feedback

- Understand this policy and college guidelines and act within their spirit and intent
- Where possible, find ways to communicate to students the value of their feedback and the ways in which data are/have been used to enhance teaching and learning
- Review and utilize student feedback regularly to enhance teaching and learning
- Discuss results with colleagues as appropriate including, for example, department head or dean

Students:

- Commit to participate in the sharing of their experiences of teaching and learning
- Provide respectful, ethical, thoughtful and constructive feedback so as to fuel educator and institutional reflection and enable processes of continuous enhancement of teaching and learning
- Understand the benefits and limitations of student learning experience feedback including when feedback provided may be inappropriate (e.g., disrespectful and/or unethical) and therefore not used to inform enhancement processes

Related Documents

Data Governance Framework for the University of Saskatchewan

Procedures for the University Council Approved Student Learning Experience Feedback

Responsibility:
Authorization:
Approval date: xxxx
Intended date for review: xxxx

Student learning experience feedback is used in place of student evaluations of teaching. This is a deliberate shift away from positioning students as evaluators of teaching quality toward student feedback positioned as a vital component of a broad suite of evidence of teaching quality (including, for example, peer feedback and self-assessment). Additionally, the word evaluation often implies that the feedback collected will largely be used to determine if teaching quality is adequate (also called summative use) rather than for development or enhancement of teaching quality (called formative use). Student learning experience feedback serves both formative and summative purposes at the University of Saskatchewan. When used formatively, educators look to this information to enhance their teaching practices, courses and programs. When used summatively, student feedback serves as one piece of information to support assessment of teaching quality through collegial and administrative processes.

1. Instrument question limit and order

The total length of the survey should be planned within each college/department such that it does not exceed 20 - 25 questions in normal circumstances. This may need to include considerations for courses with multiple educators if that is common within the college/department.

The order of questions is 6 core closed-ended questions, college/department questions (inclusive of custom questions, modular questions, course-type specific questions), educator-personalized questions, and then the 3 core open-ended questions.

2. Process for requesting a change to the core questions

University Council approved the delegation of decision-making regarding changes to the core question set to the Teaching, Learning and Academic Resources Committee (TLARC) of Council. The following process will be used for these requests:

a. Support in creation of a request will be available from the Teaching and Learning Enhancement Specialist.

b. Requests should take the form of a simple overview of:
   i. the request being made (e.g., what questions will be changed, in what way, and in what circumstance, if change is requested for a subset of courses)
   ii. the rationale for the change, with clear connections to the fit of the questions with the curriculum and/or local teaching practices
   iii. the process by which the revised questions will be validated (where needed)

c. Requests will be reviewed by the Director, Teaching and Learning Enhancement who will make a recommendation to TLARC with a rationale including the established parameters (see item e below).

d. TLARC will consider the recommendation and vote to accept or reject the request for change.

e. The request will be assessed against the following parameters:
   i. The rationale for the change is clear and aligned with the curriculum and/or teaching practices of the courses identified
   ii. Not changing the questions could cause confusion amongst students completing the instrument and/or could compromise the quality of student responses
   iii. Plans for validation of the adjusted question(s) have been made, where needed

3. Open and close dates for end of course feedback

Typical practice is to open surveys two weeks prior to the final teaching day and close it on the last teaching day. This practice is recommended for the following reasons:

- To get the highest number of questionnaire completions possible. Making the survey available while students are still taking classes provides educators the opportunity to remind students about providing feedback and, whenever possible, provide time in class to complete it on a phone, laptop or tablet.
- To achieve greater consistency regarding when in the course students provide feedback. Restricting access to only this time means that students completing the survey are doing so at the same point in the course.
- Research evidence indicates that results are not affected based on when the surveys are administered in a course (i.e., before, during or after the final exam period)[1].

As such,

a. The system is programmed to determine the default open and close dates of the course feedback period:
   i. The system default open date is the date that falls two weeks prior to the final teaching day of the regular term;
   ii. The system default close date is the final teaching day of the regular term/instruction period.

[1] Benton, S.L. & Cashin, W.E. (2012). Student Ratings of Teaching: A summary of research and literature. IDEA Paper #50. https://www.ideaedu.org/Portals/0/Uploads/Documents/IDEA%20Papers/IDEA%20Papers/PaperIDEA_50.pdf. Accessed 15 October 2016.

b. The open date is 'soft', that is:
   i. It can be changed by department administrators (with the approval of the department head) for individual courses or for the entire department;
   ii. It is not determined by university policy or practice;
   iii. Open dates can be set to any date between the day that the data has been imported and verified in the system and the day of the default close date. Note that there is often significant technical work required in order to have the system set up to open.

c. The close date is 'hard', that is:
   i. It defaults to the system final close date;
   ii. It cannot be extended by a department administrator past this date but can be set to an earlier date;
   iii. It has been determined by university practice;
   iv. It can be changed for individual departments by the System Administrator with the approval of the department head, dean, associate dean or designate (in the case of non-departmentalized colleges).

d. The system is also programmed to determine the default open and close dates of the midcourse feedback period. Mid-course feedback:
   i. is enabled by default in the system
   ii. is typically only done in courses running 6 weeks or longer
   iii. can be disabled for individual courses or all courses by the department administrator with the approval of the department head, dean, associate dean or designate
   iv. is purely formative with feedback going only to educators and not to department heads, deans, associate deans or designates.

Timing of open and close dates for 'atypical' courses will be determined on a case-by-case basis with the department head or dean, associate dean or designate.

Note: Due to the way the system is set up to send out notifications regarding course feedback it is advisable to ensure that open and close dates do not fall on weekends.

4. Reporting instrument feedback

Frequency distributions for closed-ended Likert-type (i.e., rating scale) questions will be shown first on reports. As average scores from closed-ended Likert questions require context for interpretation, average scores will be presented after the frequency distribution for each question.

Additionally, comparative distributions and/or averages will be shown for a minimum of five comparator courses from the college/department.

Theme clouds will be shown for comment blocks that have 50 or more comments.

For larger aggregate reports, further text analytics such as frequency distributions for themes and positive/negative comment analysis may be included.

5. Changes/corrections to numeric feedback

On occasion, departmental administrators make errors in setting up surveys. For example, two sets of feedback are created for the same educator within a single course. In these instances, it may be necessary to make changes/corrections to how the data are stored in order to fix the error. When such a change/correction is required, the educator or departmental administrator will inform the System Administrator who, in turn, will consult with the Vice Provost, Teaching, Learning and Student Experience. Any change/correction to numeric course feedback information must be authorized by the Vice Provost, Teaching, Learning and Student Experience. Changes/corrections to numeric data for individual educators will not be made without the knowledge of the educator.

6. Removal of student comments

Comments provided by students on the survey are treated as confidential information (e.g., students' identities are traceable, but they are not disclosed). Comments will not be removed from course feedback unless they are deemed wholly inappropriate, such as comments that are hateful or discriminatory on the basis of attributes such as gender, sexual or gender identity, race, ethnicity, religion or disability.

a. If an educator believes that a comment is wholly inappropriate, the following steps must be followed:

i. A request is made by the educator to his/her department head or associate dean specifying why the educator finds the comment to be wholly inappropriate; and
ii. Both the educator's department head and associate dean (or associate dean and dean in non-departmentalized colleges) agree with the request put forward by the educator; and
iii. The Vice-Provost, Teaching, Learning and Student Experience is informed of the request by the associate dean (or dean) and agrees that the comment must be removed.
iv. The Vice-Provost, Teaching, Learning and Student Experience has the final authority for the removal of a comment. No comment will be removed without the educator's knowledge.

b. An educator can make a direct request to the Vice-Provost, Teaching, Learning and Student Experience for the removal of a comment if a comment violates the University of Saskatchewan's policy, including but not limited to:

i. Standard of Student Conduct in Non-Academic Matters;
ii. Discrimination and Harassment Prevention

c. Under normal circumstances, students will not be permitted to request a change or modification to their questionnaire responses. Prior to submitting their responses, students will see the following: "**By clicking SUBMIT, you verify that you have answered this survey to your satisfaction, for the correct instructor, and that you understand that these answers cannot be withdrawn**." There are occasions when a student provides feedback in error, prior to the feedback being released to the educator, and makes the request that the feedback be removed. If the Vice-Provost, Teaching, Learning and Student Experience views this to be a legitimate concern for the integrity of the feedback being provided, he/she can make the decision to remove it.

d. When a comment is removed from the system, the entirety of that student's feedback will be removed. Parts of a comment (leaving the remainder) or a comment independent of the rest of that student's feedback will not be removed and portions of a comment will not be altered.

e. Normally, students will be made aware of the removal of their comment only in the event that:

i. The Vice-Provost, Teaching, Learning and Student Experience believes it is in the student's best interest; and/or

ii. The nature of the comment is such that disciplinary action may be considered.

7. Department administrator access when a dual role exists

There are some, although rare, occasions in which the department administrator will also be the educator for a course. In order to preserve the integrity of roles and avoid any conflict of interest, a department administrator who is also an educator will not be permitted to manage the feedback for his/her own class(es). As such,

a. Department administrators for the course feedback system who are also educators must have a second department administrator assigned to manage their course feedback.
b. If there is not already a second administrator in the department with access to the system and the capability of creating surveys, the department head must appoint someone and have the authorization form submitted to the System Administrator in reasonably good time.
c. If there is no one else in the department who can act as the second administrator, the department head must request that the System Administrator manage this educator's course feedback.

8. Release of results

To achieve confidentiality in student learning experience feedback and create anonymity in provision of results to educators, academic leaders and their delegates, unless the student chooses otherwise, the process for release of student learning experience feedback will adhere to the following:

a. No reports will be released where there are fewer than 5 responses to the questionnaire except where students have agreed to their feedback being shared (see next bullet).
b. To facilitate educator access to student feedback, students in courses with fewer than 10 student enrollments will be provided the option of having their qualitative/open-ended responses included in reports to educators should fewer than 5 responses be received. This choice will be available to students during questionnaire completion and it will be made clear to students that, in the case of fewer than 5 responses, there is greater potential that an educator could attribute feedback to them.
c. To avoid inappropriate interpretation of results, in courses with fewer than 5 responses, no closed-ended question results will be released.
d. To facilitate appropriate interpretation of results, in courses with fewer than 10 responses, a qualifier will be added to reports indicating that: "due to a low number of responses the quantitative/closed-ended question results presented are less stable and caution should be

used in the interpretation of the results, particularly in relation to aggregate and comparative statistics."

All attempts will be made to release educator end-of-course reports within 2 - 3 business days after grades have been approved. This timeline may not be possible if the reports are custom to the college, school or department; are being constructed and produced for the first time; or require significant human processing.

9. Aggregate data usage by department, college, and/or the university

Beyond the use of student-based course feedback data by educators, there are times when departments, colleges and/or the university benefit from summary level information. This usage fits with the principle that student feedback is collected, in part, to improve program quality and the quality of student experience. For example, a college may use student feedback (aggregated across courses and/or educators) as one piece of information in program review or renewal or to determine the outcome of a program change. As a second example, the university may wish to cross-validate findings from other student surveys (e.g., NSSE) with student learning experience feedback.

In those instances where a department, college or other unit in the institution wishes to use aggregated anonymized student learning experience feedback, certain restrictions apply. Any summary data being used must involve a minimum of three class offerings and a minimum of three unique educators. To reach the minimum number for aggregation, it is possible to use multiple years of offerings. Although the use of five or more classes/educators would be closer to an ideal with regard to aggregating data, it may be difficult in some instances. Setting a minimum number of three courses or educators accomplishes the following:

a. Ensures that the confidentiality of scores for individual educators is protected.
b. Increases the likelihood that the stability of the scores is good (e.g., that summary scores are not overly biased by individual scores in the extreme).
c. Makes clear to programs, departments, and colleges that the purpose of using data in this way is about obtaining an aggregate of student experiences of teaching and learning within a course and is not about assessing an individual educator.

An administrative unit seeking access to aggregated student learning experience data must request approval from the Vice Provost Teaching, Learning and Student Experience. In certain instances, the approval from the Vice Provost Teaching, Learning and Student Experience may also require institutional research ethics approval.

AGENDA ITEM NO: 14.2

UNIVERSITY COUNCIL

TLARC

REPORT FOR INFORMATION

PRESENTED BY:	Vince Bruni-Bossio; Chair, Teaching, Learning, and Academic Resources Committee of Council (TLARC)
DATE OF MEETING:	November 21, 2019
SUBJECT:	**Strategies for Approaching Trauma-Related Student Responses to Course Materials**
COUNCIL ACTION:	**For Information Only**

SUMMARY:

This strategies document is a faculty-led initiative. Its aim is to provide approaches and resources for educators and for units, and thus to support students who are or anticipate experiencing trauma-related responses to course materials in order to enable them to meet learning objectives. Given the diversity of the teaching and learning situations that take place at the University of Saskatchewan, the strategies document is divided into four sections including: (1) principles, (2) AES syllabus statement, (3) strategies, and (4) resources. The materials attached include a description of the how the strategies document was developed and the consultations that led up to the finalized version that is now before Council as an information item.

ATTACHMENTS: Strategies Document (Guidelines)

Strategies for Approaching Trauma-Related Student Responses to Course Materials

CONTEXTUALIZING REPORT

Introduction

This strategies document is a faculty-led initiative. Its aim is to provide approaches and resources for educators and for units, and thus to support students who are or anticipate experiencing trauma-related responses to course materials in order to enable them to meet learning objectives. The resources are provided in the form of best practices: they do not pertain to academic decisions regarding course content, learning outcomes, or discipline-specific requirements. Instead, this document provides possible methods of course delivery that may be of use to an educator in response to documented, demonstrated student needs.

The strategies are predicated on three main tenets: i) that people will respond differently to trauma and that responses are not always possible to anticipate, whether those responses be to course material or course discussions and comments made by other students; ii) that there is a clear and necessary distinction between trauma and discomfort, and that potentially sensitive topics and materials will be discussed at the university in accordance with academic freedom; and iii) that student, educator, and staff wellness is central to the functioning and mission of the university. As stated in the Wellness Strategy, an institutional goal is and must be "To create an environment that promotes and supports the health and well-being of all who study and work at our campuses." The guidelines are informed by three main documents: the USFA Collective Agreement (2014-17), including section 6.1: Academic Freedom; the University of Saskatchewan Guidelines for Academic Conduct (June 1999), including Principle III: Respect for the Dignity of Others, Dealing with Sensitive Topics; and the Canadian Association of University Teachers Policy Statement on Trigger Warnings (May 2015).

Given the diversity of the teaching and learning situations that take place at the University of Saskatchewan, the strategies document is divided into four sections:

1. Principles:
   A more conceptual statement of the bases and underlying objectives of the guidelines. These general principles may inform a college's or a unit's local approach to situations that are not necessarily addressed in the document.
2. AES Syllabus Statement:
   A specific option for students with existing diagnoses, which entails student registration with AES on the basis of medical documentation. Registration is an act of self-advocacy, as is the student's role in the AES Accommodation Committee consultation process, which involves the student and the educator in establishing specific accommodations.
3. Strategies:
   Organizational and classroom strategies offered as options for educators and units in managing responses to potentially traumatic as well as to uncomfortable course materials. Techniques for possible accommodation that would be established locally (i.e. by the student and educator in likely consultation with department / unit head or program chair) and sources for more information are also provided.
4. Resources:
   A list of on-campus resources for educators to recommend to students and to use themselves.

PROCESS OF GUIDELINES DEVELOPMENT

The Strategies initiative arose in the Department of English in response to course-related situations concerning student well-being. Initial consultations included discussions with representatives of CAUT and the USFA; with the Associate Dean, Student Affairs and the Vice-Dean, Academic of the College of Arts and Science; with the Manager of AES and the Director, Student Affairs and Services; with the University's Legal Counsel; and with the Vice-Provost, Teaching, Learning, and Student Experience.

Following these consultations, a Working Group was formed by the Vice-Provost, TLSE. After small-group consultation, the group as a whole met in April 2017 and in October 2017, and included the following members (listed in terms of their positions at the time):

Kristina Bidwell, Associate Dean, Indigenous Affairs, College of A&S
Yelena Bird, School of Public Health
Patience Elabor-Idemudia, Sociology, College of A&S
Lorin Elias, Associate Dean, Student Affairs, College of A&S
Joel Fonstad, Learning Centre, University Library
John Hansen, Sociology, College of A&S
Peter Hedley, Director of Student Affairs and Services, TLSE
Maxine Kinakin, Manager, Access & Equity Services, TLSE
Maggie Kovach, College of Education
Ann Martin, English, College of A&S (Chair)
Patti McDougall, Psychology, Vice-Provost, Teaching, Learning, and Student Experience
Lucinda Vandervort, College of Law

A draft of the Trauma Guidelines was established and subsequently circulated among the Working Group for further revision in Winter 2017. A consultation process was also established. Accordingly, the Chair of the Working Group and the Vice-Provost, TLSE met with the USSU Academic Affairs Committee and with the Executive of the Graduate Student Association, and circulated the document to the Gwenna Moss Centre for Teaching and Learning for feedback in Summer 2018. A revised draft was circulated among the Working Group for final approval in February 2019 and forwarded to TLARC for preliminary discussion at the meeting of 16 April 2019. The current version of the strategies document integrates feedback provided by TLARC and from Peter Hedley (Student Affairs and Services) and Maxine Kinakin (Access and Equity), thus marking the document's intended role as a responsive, evolving set of best practices.

STRATEGIES FOR APPROACHING TRAUMA-RELATED STUDENT RESPONSES TO COURSE MATERIALS

Introduction

This strategies document is intended to provide resources for educators and units at the University of Saskatchewan regarding trauma-related student responses to course materials and classroom discussions. It is a support for educators and thus for students who identify that they are having or anticipate having trauma-related responses to certain course materials. The strategies do not pertain to academic decisions regarding course content, learning outcomes, or discipline-specific requirements and practices, nor are they intended to inhibit in any way the educator's exercise of academic freedom. Rather, they represent possible approaches and methods for the delivery of course content that an educator may choose and use in response to documented, demonstrated student needs. By exploring alternative approaches to the delivery of course content and materials, educators are enabled to reduce the likelihood of harm while maintaining the integrity of course outcomes.

The resources are presented in four sections:

1. Principles: a conceptual statement of the bases and underlying objectives of the document. These general principles may inform a college's or a unit's local approach to situations that that are not necessarily addressed in the document.
2. AES Syllabus Statement: a statement supporting registration with Access and Equity Services for students with existing medical diagnoses. Student registration is an act of self-advocacy and involves a targeted, managed approach towards accommodation through the AES Accommodation Committee consultation process, which involves the student and the educator in a facilitated dialogue.
3. Strategies: a set of optional organizational and classroom techniques that may be of use for educators and units in managing student responses to potentially traumatic course materials. Such techniques are intended as best practices in the possible accommodation of students (i.e. on an informal basis by the educator in likely consultation with a department / unit head or program chair) as well as techniques for guiding productive discussions of what may be perceived as uncomfortable material.
4. Resources: a list of on-campus resources for educators to recommend to students and to use themselves.

The strategies and resources provided may have greater applicability to some units than to others. They may serve to raise awareness of the range of student responses that can arise in relation to some course content or classroom discussions. The strategies and resources may be consulted by individual instructors or may become part of a unit's discussion of teaching and learning objectives, and / or managing student and educator wellness. That discussion may involve administrators alongside full-time and adjunct faculty, limited-term faculty, sessional instructors, and graduate student and undergraduate teaching assistants or seminar leaders. Such discussions, as well as the teaching practices of individual educators, may also benefit from talks, workshops, and presentations offered through the Gwenna Moss Centre for Teaching and Learning and through Student Affairs and Outreach.

Principles

There are a range of possible trauma-related responses that students may have to course materials

and class discussions. Some may arise from diagnosed conditions, such as PTSD, anxiety disorders, clinical depression, etc., that pertain to a specific experience and result in recognized physiological or psychological responses. Familial and / or communal histories can also inform a response. Everyone responds differently to trauma, and it may not be possible for the student or the educator to identify all potentially traumatic materials presented and engaged with through course readings, assignments, and class discussions.

Accommodations will not be made for students who are simply uncomfortable with subject matter. Critical inquiry is central to the university's mission, and academic freedom is predicated upon an educator's ability to choose and use teaching techniques and course materials, and to engage in the critical discussion of potentially sensitive topics. The university is an academic environment in which difficult and potentially disturbing content is to be better understood through the development and practice of scholarly methods of inquiry. Such inquiry can be enriched by students who engage with the process through a range of histories and experiences, and with respect for each other and for the larger academic enterprise.

Any approach should thus acknowledge the difference between the psychological or traumatic, which may require accommodation, and the ideological, in which a level of discomfort can be recognized as part of the learning process. In either case, the aim is to identify empowering and supportive strategies for all parties; to acknowledge the centrality of our shared well-being to teaching and learning; and to assist in the development of knowledge, skills, and resilience in managing difficult topics and issues within and beyond an academic environment. Respectful teaching and learning practices, as well as the identification of support services and other resources for students, faculty, and staff alike are crucial elements of this aim.

Any student accommodation(s) involved in this process would pertain to methods, approaches, and / or procedures supporting students to achieve course outcomes. Accommodation(s) would not pertain to academic decisions regarding content or curricula.

Access and Equity Services (AES) Syllabus Statement

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so. Students who suspect they may have disabilities should contact AES for advice and referrals at any time. Those students who are registered with AES with mental health disabilities and who anticipate that they may have responses to certain course materials or topics, should discuss course content with their instructors prior to course add / drop dates. In order to access AES programs and supports, students must follow AES policy and procedures. For more information or advice, visit https://students.usask.ca/health/centres/access-equity-services.php, or contact AES at 306-966-7273 or aes@usask.ca.

Students registered with AES may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.

Strategies

- Educators will ensure the confidentiality of students who anticipate or who self-identify as experiencing a trauma-related response to course materials, and will provide the student with information about the University of Saskatchewan Student Wellness Centre and Access and Equity Services, as per the AES syllabus statement. AES registration may result in the arrangement of accommodations not included in the list of suggestions provided below.

- Students can benefit from educators using the following wording on their course outlines in conjunction with the AES syllabus statement, should it seem appropriate:

  > The discussion and analysis of challenging subject matter is an integral part of the academic environment and of the learning process. Students should self-identify before the class add / drop date to Access and Equity Services, and to the instructor if desired, if they have diagnosed responses related to traumatic situations that may be covered in course materials and if they would like to discuss content warnings or other accommodations.

- Students can benefit when educators provide notifications, including through e-mail or Blackboard, of course materials that could be regarded as emotionally difficult before study of those materials begins, with wording such as the following:

  > So that you can prepare for the study of Eden Robinson's short story "Queen of the North," you should be aware that it deals with familial sexual abuse related to Residential School experiences, including specific subjects such as sexual assault and abortion.

- Students can benefit when educators use teaching strategies geared towards facilitating productive discussions of material and topics that may be viewed as uncomfortable. These might include:
  - prefacing such discussions by acknowledging the potentially emotional dimension of the material and providing information on support services, such as those offered through the Student Wellness Centre;
  - inviting a guest lecturer to address issues specific to a given group or experience;
  - considering the integration of specific teaching strategies (see the Gwenna Moss Centre for workshops and sessions) that can assist in guiding students through material that may evoke discomfort or strong emotion;
  - encouraging students to draw upon their own knowledge to enrich the larger learning experience, thus examining situational experiences through the analysis of systemic or structural issues;
  - enunciating the student's responsibilities to the larger class in relation to mutually respectful dialogue; and / or
  - moving a conversation that is tending towards personal opinion back to a focused engagement with the material, literature, and / or research itself, thereby grounding discussions in evidence-based modes of scholarly inquiry and analysis.

- Accommodations arranged for students who self-identify will vary depending upon circumstances, but could include one or more of the following, which are ordered to suggest a progression of options:

- working with the student, if the student so desires, through the USSU Academic Advocacy Office or the GSA Vice-President Academics and Student Affairs, to establish needs;
- working with the department / unit head or undergraduate chair to find the student an alternate class (at the beginning of term);
- noting particular content in advance so that the student can best prepare for effective discussion of the material (see sample wording, above);
- if there is a participation grade, allowing students to miss without penalty one or two classes in which the problematic material will e discussed;
- at the discretion of the educator, allowing for the substitution of a limited amount of course material that fulfills the same learning objectives in terms of topic, theme, form, methods etc., but that does not contain the traumatic subject matter; and
- if necessary and depending upon the structure of the midterm and / or final exams, adding one or two questions about the substitute material / text to the exam(s) administered to that particular student.

- Educators, including sessional instructors and graduate students working in an instructional capacity, can benefit from accessing the following on-campus resources (see "Resources" below for contact information):
  - Student Affairs and Outreach for consultation, advice, and strategies regarding specific student or classroom situations;
  - Student Affairs and Outreach for presentations aimed at issues and strategies relevant to specific colleges, departments, programs, and units;
  - the Gwenna Moss Centre for Teaching and Learning, which offers workshops, sessions, and talks regarding teaching and learning strategies;
  - Mental Health First Aid courses offered through the Office of the Vice-Provost, Teaching, Learning, and Student Experience; and
  - the Employee and Family Assistance Program.

Resources

Access and Equity Services: E1 Administration Building
AES is guided by Saskatchewan's Human Rights legislation and the duty to accommodate individuals requiring accommodations based on disability, religion, family status, and gender identity.
https://students.usask.ca/health/centres/access-equity-services.php
306.966.7273; aes@usask.ca

University of Saskatchewan Students' Union Academic Advocacy Office: Room 110, Place Riel
The USSU's Academic Advocacy Office serves as a general information source for students regarding their rights and responsibilities.
https://ussu.ca/main-page/services/academic-advocacy/
306.966.6968; vpacademic@ussu.ca

Graduate Students' Association
The not-for-profit organization that represents over 4000 graduate students at the University of Saskatchewan, and that provides professional, academic, and social activities and services.
https://gsa.usask.ca/
Vice-President Academics and Student Affairs (gsa.sa@usask.ca)
President (gsa.pres@usask.ca)

Student Wellness Centre: 3rd (Rm. 310) and 4th floors, Place Riel Student Centre
The Student Wellness Centre offers urgent and non-urgent physical and mental health care to U of S students and their spouses and children.
https://students.usask.ca/health/centres/wellness-centre.php
306.966.5768; student.wellness@usask.ca

Student Affairs and Outreach: 3rd floor, Place Riel Student Centre
A team of Social Workers responsible for mental health intake, early alerts, student outreach, crisis response, psycho-educational groups, and consultation to faculty, staff, and students who are concerned about a student.
https://students.usask.ca/health/centres/student-affairs-and-outreach.php
306.966.5757

Gwenna Moss Centre for Teaching and Learning: Room 50, Murray Building
The Gwenna Moss Centre is committed to supporting and improving teaching and learning, and provides a variety of programming and resources to help faculty, instructors, and grad students.
https://teaching.usask.ca/about/units/gwenna-moss-centre-for-teaching-and-learning.php
306.966.2231; gmctl@usask.ca

Employee and Family Assistance Program
The University of Saskatchewan provides EFAP as a resource to help employees and their family members deal with personal and work-life concerns.
306.966.4300 / 1.844.448.7275

Office of the Vice-Provost, Teaching, Learning, and Student Experience
https://teaching.usask.ca/about/people/vice-provost-teaching-learning-and-student-experience.php