UNIVERSITY OF SASKATCHEWAN

Academic Programs Committee of Council

University Course Challenge

Scheduled posting: December, 2015

The following types of curricular and program changes are approved by the University Course Challenge -- additions and deletions of courses, lower levels of study and program options; straightforward program changes; and changes to courses which affect another college.

Contents include submissions for approval and information from the following colleges:
College of Agriculture & Bioresources
College of Arts & Science
College of Dentistry
College of Education
Edwards School of Business
College of Engineering
College of Graduate Studies & Research
College of Medicine
College of Nursing
Western College of Veterinary Medicine

Approval: Date of circulation: December 16, 2015
Date of effective approval if no challenge received: January 8, 2016

Next scheduled posting:

The next scheduled Challenge document posting will be January 15, 2016, with a submission deadline of **January 12, 2016.** Urgent items can be posted on request.

Please direct challenges to both of the following: seanine.warrington@usask.ca in Registrarial Services and amanda.storey@usask.ca in the Office of the University Secretary.

College of Agriculture and Bioresources: December, 2015 UCC

December 11, 2015, UCC submission

1. Proposal to change the Year 2, Term 2 requirements for the Diploma in Agronomy from the current requirement of completion of PLSC 340 and PLSC 345 to the completion of PLSC 340 or PLSC 345 and that the other three credit units be added to the amount of Restricted Electives so that the requirement now becomes 9 credit units from that list, up from the current requirement of 6 credit units.

   The rationale for this change is that the growth in both the diploma and degree programs in Agronomy has stretched both the department and program's ability to continue making both classes required for both programs especially . Making only one of them mandatory for the diploma program accomplishes two things: it continues to ensure that students have access to relevant material as a required course in their program, and; it allows students some flexibility and volume in their restricted electives whereby they can choose another course that builds upon their interests or the content in their choice of PLSC 340 or 345 but doesn't preclude taking the other course.

Current:

Year 2 - Term 2 (15 credit units)

- AGRN 375.3
- PLSC 340.3
- PLSC 345.3

Choose 6 credit units from the following restricted electives:

- **AGRC 112.3**
- **BLE 261.3**
- **BLE 275.3**
- **BLE 309.3**
- **BPBE 230.3**
- **BPBE 251.3**
- **BPBE 343.3**
- **BPBE 347.3**
- **PLSC 213.3**
- **PLSC 214.3**
- **PLSC 234.3**
- **PLSC 235.3**
- **PLSC 311.3**
- **PLSC 330.3**
- **PLSC 333.3**
- **PLSC 408.3**

- **PLSC 418.3**
- **PLSC 420.3**
- **PLSC 445.3**
- **SLSC 232.3**

Proposed:

Year 2 - Term 2 (15 credit units)

- AGRN 375.3
- PLSC 340.3or PLSC 345
- ~~PLSC 345.3~~

Choose ~~6~~9 credit units from the following restricted electives:

- **AGRC 112.3**
- **BLE 261.3**
- **BLE 275.3**
- **BLE 309.3**
- **BPBE 230.3**
- **BPBE 251.3**
- **BPBE 343.3**
- **BPBE 347.3**
- **PLSC 213.3**
- **PLSC 214.3**
- **PLSC 234.3**
- **PLSC 235.3**
- **PLSC 311.3**
- **PLSC 330.3**
- **PLSC 333.3**
- **PLSC 340.3**
- **PLSC 345.3**
- **PLSC 408.3**
- **PLSC 418.3**
- **PLSC 420.3**
- **PLSC 445.3**
- **SLSC 232.3**

2. Proposal to replace PHIL 226.3 with ENVS 201.3 as a Required Class in Year 2 of the Bachelor of Science in Renewable Resource Management, Resource Economics and Policy major. PHIL 226.3 remains a valuable class for this program, however, so the proposal also includes that this class be moved, and that AGRC 211.3 be added, to the list of Restricted Electives for the program.

PHIL 226.3 has not been offered on a consistent basis and, before this year, had last been offered in 201309. When the course was not offered in 201409, the department made the substitution of ENVS 201 for PHIL 226.3 for their students and it fit the philosophy of the program quite well. This positive aspect, combined with the students' desire to pursue the new Certificate in Sustainability, makes this permanent change in the required classes for the program in the students' best interests and allows them to pursue both credentials more easily and allows for more interdisciplinary inquiry.

To ensure the option of taking PHIL 226.3 as part of the program, the department wishes to incorporate the class as part of the Restricted Electives which will allow students the option to take the course when it best fits into their schedule rather than requiring that it be taken at a certain point in the program.

The addition of AGRC 211.3 to the list of Restricted Electives is meant to allow the students' desire to include more classes on food security as part of the policy portion of their degree. It also allows the program to furnish their students with the exposure necessary to incorporate food security as part of their tool kit and align the program with an emerging area of research and institutional priority.

Current:

Year 2 (30 credit units)

Requirements

- ECON 211.3
- ECON 277.3
- GEOG 280.3
- PLSC 214.3 or STAT 245.3
- PHIL 226.3
- RCM 300.3
- 9 credit units open electives

Proposed:

Year 2 (30 credit units)

Requirements

- ECON 211.3
- ECON 277.3
- GEOG 280.3
- PLSC 214.3 or STAT 245.3
- ~~PHIL 226.3~~ ENVS 201
- RCM 300.3

- 9 credit units open electives

Current:

Choose 9 credit units

Choose 9 credit units from the following, depending on area of interest:

Policy

- BPBE 342.3
- BPBE 432.3
- BPBE 434.3
- BPBE 451.3
- COMM 201.3
- ECON 231.3
- ECON 347.3
- GEOG 385.3
- POLS 111.3 or POLS 112.3
- POLS 225.3
- POLS 226.3
- POLS 326.3
- POLS 328.3
- POLS 425.3

Proposed:

Choose 9 credit units

Choose 9 credit units from the following, depending on area of interest:

Policy

- BPBE 342.3
- BPBE 432.3
- BPBE 434.3
- BPBE 451.3
- COMM 201.3
- ECON 231.3
- ECON 347.3
- GEOG 385.3
- POLS 111.3 or POLS 112.3
- POLS 225.3
- POLS 226.3
- POLS 326.3
- POLS 328.3

- POLS 425.3
- PHIL 226.3
- AGRC 211.3

Current:

Choose 15 credit units

Choose 15 credit units from the following, depending on area of interest:

Policy

- BPBE 342.3
- BPBE 432.3
- BPBE 434.3
- BPBE 451.3
- COMM 201.3
- ECON 231.3
- ECON 347.3
- GEOG 385.3
- POLS 111.3 or POLS 112.3
- POLS 225.3
- POLS 226.3
- POLS 326.3
- POLS 328.3
- POLS 425.3

Proposed:

Choose 15 credit units

Choose 15 credit units from the following, depending on area of interest:

Policy

- BPBE 342.3
- BPBE 432.3
- BPBE 434.3
- BPBE 451.3
- COMM 201.3
- ECON 231.3
- ECON 347.3
- GEOG 385.3
- POLS 111.3 or POLS 112.3
- POLS 225.3
- POLS 226.3

- POLS 326.3
- POLS 328.3
- POLS 425.3
- PHIL 226.3
- AGRC 211.3

3. Proposal that the 6 credit unit thesis requirement for the Bachelor of Science in Agriculture, Honours, Agricultural Biology program, be changed to include the option of the 3 credit unit thesis class plus another course at the 300-level or above from the list of Restricted Electives.

   The Agricultural Biology major is an interdisciplinary major jointly offered by the College of Agriculture and Bioresources and the Department of Biology in the College of Arts and Science. The program is quite small and usually has no more than six students in the major in any given year, however, the requirement for the six credit unit thesis in this program often requires the students to begin a research project in the department of their chosen area of interest in the summer before registration in the thesis. This means that the department responsible for that area of research must provide an opportunity and facilities for the research to occur, which can be costly and time-consuming if the student has not been in contact with the department prior to that summer. The change to a three credit thesis option also aligns more closely with the Honours program in the Department of Biology where a six credit thesis is no longer a requirement for the degree, but still leaves the option open to the student if they choose and resources allow.

Current:

Choose 6 credit units from the following:

selection will depend upon the student's area of interest

- ANSC 494.6
- EVSC 494.6
- FABS 494.6
- PLSC 494.6
- SLSC 494.6

Proposed:

Choose 6 credit units from the following:

selection will depend upon the student's area of interest, availability of a research project and permission of the department involved

- ANSC 494.6

- EVSC 494.6
- FABS 494.6
- PLSC 494.6
- SLSC 494.6
- Or one of ANSC 492.3, EVSC 492.3, FABS 492.3, PLSC 492.3 or SLSC 492.3 and 3 credit units at the 300-level or higher from Restricted Electives

4. Proposal to change the prerequisites to PLSC 240.3 to include BIOL 222.3.

   PLSC 240 was created to allow AgBio students in the plant sciences to have another option for a plant metabolism course from which to choose, along with BIOL 331. It has proven a very popular course as the college's enrolment has grown, but along with the addition of more students it has become obvious that many of them are insufficiently prepared for the material without an additional plant course. Therefore, it was decided to bring the requirements for PLSC 240 more in line with those of BIOL 331 by adding BIOL 222. This signals to students that the course material in either class is of a similar nature and level and that a student who chooses one over the other, mostly out of scheduling necessity, will be receiving material appropriate for their plant-based degree in either class.

Current:

PLSC 240.3 — 1(3L)
Plant Metabolism

An introductory plant biochemistry course focusing on photosynthetic and mitochondrial metabolism, with emphasis given to interaction between these processes. The integration of amino acid and lipid biosynthesis, as well as nitrogen and sulfur metabolism, is also examined. This course will be conducted online, with some limited face-to-face instruction.

Prerequisite(s): BIOL 120 and one of CHEM 250 or BMSC 200.
Note: Students with credit for BIOC 220 may not take this course for credit.

Proposed:

PLSC 240.3 — 1(3L)
Plant Metabolism

An introductory plant biochemistry course focusing on photosynthetic and mitochondrial metabolism, with emphasis given to interaction between these processes. The integration of amino acid and lipid biosynthesis, as well as nitrogen and sulfur metabolism, is also examined. This course will be conducted online, with some limited face-to-face instruction.

Prerequisite(s): BIOL 120, BIOL 222 and one of CHEM 250 or BMSC 200.
Note: Students with credit for BIOC 220 may not take this course for credit.

5. To add BIOL 120.3 or 121.3 as a prerequisite for PLSC 311.3

   Currently, PLSC 311 does not have any prerequisites listed and this was keeping with the nature to allow access to anyone who may be interested in the field of beekeeping. However, a fundamental knowledge of insect and plant life has shown to be a crucial element of success in the class the majority of the time and this, along with the fact that, despite not having prerequisites listed, the course is still a 300-level class with academic expectations to match. The class also requires a project that is to begin in the summer prior to the class and without the listing of a prerequisite, new students, either transfer or first year, without any background at the 100-level, will not have the skills sufficient to complete the project and report that is required. Therefore, it is felt that adding BIOL 120 or BIOL 121 will ensure that students will have at least one 100-level Biology lab class completed before they register in this class.

Current:

PLSC 311.3 — 2(3L)
General Apiculture

Introduction to the science and practice of beekeeping. Subjects include the development, morphology, physiology genetics and social behaviour of the honey bee, beekeeping equipment, management of bees, swarm control, wintering, honey production, bee diseases and pollination.

Proposed:

PLSC 311.3 — 2(3L)
General Apiculture

Introduction to the science and practice of beekeeping. Subjects include the development, morphology, physiology genetics and social behaviour of the honey bee, beekeeping equipment, management of bees, swarm control, wintering, honey production, bee diseases and pollination.

Prerequisites: BIOL 120 or 121

UNIVERSITY OF SASKATCHEWAN

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: Yes

2. Information required for the Catalogue

   2.1 Label & Number of course: PLSC 350

   2.2 Title of course: Agricultural Entomology

   2.3 Total Hours: Lecture Seminar Lab Tutorial x Other (online)

   2.4 Weekly Hours: Lecture Seminar Lab Tutorial xOther (online)

   2.5 Term in which it will be offered: xT1 T2 T1 or T2 T1 and T2

   2.6 Prerequisite: CHEM 250 and PLSC 222 or 201

   2.7 Calendar description:

   The fundamentals of entomology, including basic anatomy and physiology will be examined. Life-cycle and ecology of economically important field crop pest insects found on the Prairies and the principals of economic entomology including monitoring, sampling, insect control and pest management with an IPM emphasis will be explored. The history, current use of insecticides, and innovative and/or novel insect control methods will be investigated. An understanding of the balance between pest and beneficial species (biocontrol) will be developed. Tools used to identify an insect, determine economic damage and control actions will be acquired.

   2.8 Any additional notes

3. Rationale for introducing this course. No agricultural entomology course currently exists.

4. Learning Objectives for this course.

   Course objectives and student learning outcomes

   1. To introduce students to basic entomology and to applied agricultural entomology with a focus on crop pests, and provide entomological context for higher level courses in agronomy or crop science taken later in the degree.
   2. To grasp basic anatomy and physiology in a group of animals that impact both as an agricultural pest and as a beneficial organism.
   3. To develop the skills to properly identify an insect.
   4. To understand insect ecology and the impact of insects in an agroecosystem.
   5. To investigate the relationship between insects and plants.

6. To focus on, and gain a greater understanding, of key insect pests of prairie crops including cereals, canola and legumes and also of stored grains and products.
7. To gain an appreciation of the role of beneficial insects and to understand their role in an IPM approach to crop management.
8. To examine the history, current use, and upcoming innovations in chemical and novel insecticides.
9. To apply the principals of economic injury levels and economic thresholds and the importance of monitoring, monitoring techniques and record keeping.
10. To expose students to other areas of entomology, including veterinary entomology, which are of practical concern.

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? No

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.
   (Weekly outline of lectures or include a draft of the course information sheet.)
   See Appendix 1.

8. Enrollment.
   Expected enrollment: 35-80
   From which colleges? Agriculture and Bioresources

9. Student evaluation.
   Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

Mid-term Exam	15
Reading assignment 1	5
Reading assignment 2	5
Fact sheet	10
Final Exam	40
Insect Identification Project	25

10. Required text:
Include a bibliography for the course.

1. The Insects. An Outline of Entomology 5th Edition, 2014. Gullan and Cranston (Wiley Blackwell)
2. Field Crop and Forage Pests and their Natural Enemies in Western Canada. Identification and Management Field Guide. Agriculture and Agri-Food Canada, 2015. Available for free on-line. Library access:

3. Pedigo, L.P. & M.E. Rice. 2009. Entomology and Pest Management. Sixth Edition. Prentice Hall, Upper Saddle River, N.J. xxvii + 749 pp.

11. Resources.
Proposed instructor: TBD.
How does the department plan to handle the additional teaching or administrative workload?

A new faculty member with the expertise in entomology will be hired.

Are sufficient library or other research resources available for this course? Yes

Are any additional resources required (library, audio-visual, technology, etc.)? No

12. Date of Implementation:
To be offered: x annually biennially other

Appendix 1.

Proposed Lecture Outline :

Lecture		Topic
1		Introduction to Entomology
2, 3		Insect Ecology
4		Taxonomy and Systematics
5,6,7		Anatomy
8,9		Physiology
10		Life cycle and seasonal cycles
11,12,13		Insect orders
14, 15		Insects and plants; Host plant resistance to insects
16		History of entomology on the prairies
17		Cereal crop pests
18		Canola crop pests
19		Legume crop pests
20		Stored products pests
21		Beneficial insects - Predators
22		Beneficial insects - Pollinators
23		Beneficial insects - Parasitoids
24		Insects and disease transmission
25, 26		IPM, Economic thresholds
27		Introduction to insecticides
28, 29		Current insecticides
30		Innovative and novel insecticides
31		Monitoring and record keeping

UNIVERSITY OF SASKATCHEWAN	**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: P.J. Shand, FABS department – October 2015.

2. Information required for the Catalogue

2.1 Label & Number of course: FABS 110.3

2.2 Title of course: The Science of Food

2.3 Total Hours: 39 **Lecture Seminar Lab Tutorial Other**

2.4 Weekly Hours: 3 **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: None, but a background in high school sciences at the 30-level is recommended.

2.7 Calendar description:

This course provides a comprehensive introduction to the principles and practice of food science and technology in contemporary society. Major themes are the chemistry and composition of food; preservation and processing; food safety and the role of food in health and wellness. Contemporary issues including organic foods, GMOs, nanotechnology, nutrition trends, food ingredients, molecular gastronomy and food waste will also be addressed. Each lecture will address popular questions(s) related to food facts and fads using a scientific approach and discussion.

Pre-requisites: None, but a background in high school sciences at the 30-level is recommended.

2.8 Any additional notes

3. Rationale for introducing this course.

The proposed first year course will replace FABS 210.

We believe that by teaching this course at an earlier stage at a more introductory level, students will be able to identify with their program cohort at an earlier time and will have an introductory disciplinary background at an early stage in their program. By removing prerequisites (Chem 112 is required for FABS 210) and teaching at a first year level we hope to interest students from all over the campus. This will help to raise awareness of food science and technology on a broad student population and might also help us in recruitment in our degree program.

4. Learning Objectives for this course.

Upon successful completion of this course, students will:

1. Understand and appreciate the role of food science and technology in providing a safe, palatable, nutritious and affordable food supply
2. Be able to evaluate food labels, food fads, nutritional claims and make wise food choices related to health and wellness
3. Be able to describe physical and chemical properties of food and its ingredients.

4. Be familiar with the fundamental principles of food processing, preservation, storage and packaging
5. Be able to understand the role of ingredients and the effects of processing on nutritional and sensory properties of foods
6. Understand the linkage between food and health and wellness
7. Be able to recognize issues with food safety and food-borne illness

5. Impact of this course.

Are the programs of other departments or Colleges affected by this course? Yes (Nutrition and Arts and Science)

If so, were these departments consulted? (Include correspondence) Yes, Nutrition is supportive in principle and will provide correspondence shortly. FABS is the primary contact for the Interdisciplinary FDSC program in Arts and Science.

Were any other departments asked to review or comment on the proposal? No other departments in the college.

6. Other courses or programs affected (please list course titles as well as numbers).

Course(s) to be deleted? FABS 210.3 Dimensions of Food Science

Course(s) for which this course will be a prerequisite?

Is this course to be required by your majors, or by majors in another program? Yes, required by the B.S.A. FABS program, the interdisciplinary FDSC program in Arts and Science and the B.Sc. (Nutrition) program.

It will also become a requirement in the FABS minor and an elective in the Nutrition minor.

7. Course outline.

(Weekly outline of lectures or include a draft of the course information sheet.)

Introduction

- What is food science? How it is different from cooking?
- What are the career options as a food scientist?
- Learn how to read the nutrition label

Part 1. What is in your food? (Chemistry of major components of food and ingredient interactions)

1.1. Carbohydrates

- What makes your steak go brown during barbecuing?
- What ingredients are used to replace fat in low calorie foods?
- What makes diet soda taste sweet?

1.2. Fats and oils

- Which cooking oil is the best for everyday use?
- Is margarine healthier than butter?
- Are saturated fats really responsible for cardiovascular disease?
- Why do French fries sometimes taste rancid?
- Are there any good trans fats?
- Can chocolate make you healthy?

1.3. Proteins

- What makes Jell-O gel?
- Where does foam in beer comes from?
- Can you unboil an egg?
- Why are gluten-free breads not so tasty?
- Why do apples turn brown after cutting?

1.4. Water

- Why does food cook faster in a pressure cooker?
- Why does dried fruit have a longer shelf-life than fresh fruit?

1.5. Mixed systems (emulsions)

- Can you make mayonnaise without egg yolk?
- What makes ice cream taste so good?
- What are hot dogs made of?

Part 2. What happens to food between the farm gate and consumption? (principles of food processing, preservation and packaging)

2.1. Food processing

- What are the basic steps in food processing operations?

2.2. Food deterioration and preservation

- What makes and old refrigerated milk taste so bad?
- Are canned foods nutritious?
- Can you safely do canning at home?
- Food waste and food loss

2.3. Processing of fruits and vegetables

- Why do fruits changes colour during ripening?
- How can we keep our vegetables fresher longer?
- Did Popeye have it right? Can spinach make you stronger?
- Is there really any super fruit?

2.4. Food packaging

- Is smart food packaging real?
- Edible food packaging, gimmick or gold?

2.5. The science of food preparation and consumer acceptance

- Is there any science behind everyday kitchen myths?
- How food tastes are tested?
-

Part 3. Food safety and food-borne illness

- What makes you sick when you eat spoiled food?
- What does the food industry do to keep your food safe?
- Are there any good bacteria?

Part 4. Contemporary issues and hot topics in food

4.1 Food and Health Claims

- Interrelation between food, nutrition and health
- Functional foods, neutraceuticals and dietary supplements
- Can foods prevent disease?

4.2 Hot topic: organic food, GMOs and nanotechnology

- Are organic foods better than conventional foods?
- Should we be concerned about GMOs in our food?
- Can nanotechnology revolutionize food safety and functional foods?

4.3 Future foods

- How about insects as a yummy snack?
- Can meat be grown in a laboratory?

8. Enrolment.

Expected enrollment: 120

From which colleges? Agriculture, Pharmacy and Nutrition, Arts and Science

9. Student evaluation.

Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

Mid-term exam	25%	TBA
Class participation	10%	
Assignment	20%	TBA
Final exam	45%	TBA
Total	**100%**	

Evaluation Components

Participation in class discussion:

You are expected to attain class and participate in discussion by answering questions raised during lecture using a **clicker**. Your participation and ability to correctly answer quiz questions will be measured by clicker usage. The points for this section will be based on both the number of "click" you record and the percentage of correct answer during the discussion sessions throughout the semester. Typically 3-5 questions will be asked during a class period.

You can buy clickers and clicker applications from the Campus Computer Store. More information can be found at http://www.usask.ca/ict/services/instructional-technologies/clickers/. Make sure you register and link your clicker and the app in your name and NSID before using it in a class.

Assignment:

Develop fact sheet describing how a healthier version of a food/ingredient is made.

Overview: Imagine you are working in a food company where a new consumer-ready product/ ingredient will be produced for sale at retail or use by another food processor in their products. In order to give your customers/ buyers some information on the process that you use for this product, your research and development manager have asked you to prepare a fact sheet to hand out.

In the fact sheet, outline the process your company uses for producing a specific food product or food ingredient. A flow-chart may be useful. For each step, discuss the procedures and equipment you use and identify the *unit operations* involved. Also, where appropriate, describe how to *optimize the quality and safety* at that step. In your process,

identify ways used to make the product more healthful. It may be in the choice of ingredients, or processes. This is where a novel new research idea could fit in. Include a comparison to the "regular" product, if that fits.

Some suggested topics, examples and more details of the style and requirement will be provided at a later date.

Submitting Assignments: The fact sheet must be typed and exactly 2 pages in length (plus a page or pages for the reference list). It should be single spaced with minimum margins of 0.75 inches with 9 to 12 point font size. Two copies of all materials are required for submission (one for us to keep on file and one to be returned to you).

Late Assignments: Assignments handed in late will incur a penalty of 10% deducted for each day the assignment is late.

10. Required text:

Include a bibliography for the course.

Students will be provided with selected handouts throughout the course. They will also be directed to appropriate publications, websites, etc. for general background or for specific reading assignments.

Reference Books in the Library or available electronically:

1. Brown, A. 2015. Understanding Food – Principles and Preparation, 5th ed. Wadsworth Publishing (Health Sciences Library, TX354 .B756 2000)
2. Vaclavik, V., Christian, E. 2014. Essentials of Food Science. Springer. [electronic resource] http://lib.myilibrary.com.cyber.usask.ca/Open.aspx?id=133746
3. Murano, P. 2003. Understanding Food Science and Technology. Wadsworth / Thomson Learning. Belmont, California. (Health Sciences Library, TP370.5 .M87 2003)

11. Resources.

Proposed instructor: Supratim Ghosh

How does the department plan to handle the additional teaching or administrative workload?

This would be a course substitution for Dr. Ghosh. Some additional teaching support (marking) will be required.

Are sufficient library or other research resources available for this course? Yes

Are any additional resources required (library, audio-visual, technology, etc.)? No

12. Date of Implementation: 2016-17 Term 2

To be offered: **annually** biennially other

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

1. PROPOSAL IDENTIFICATION

Title of proposal: Addition of B.S.A. Food and Bioproduct Sciences Minor in Applied Microbiology

Degree(s): B.S.A.

Field(s) of Specialization: Applied Microbiology

Level(s) of Concentration: Minor

Option(s):

Degree College: Agriculture and Bioresources

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

Dr. Phyllis Shand, Department Head, 966-8842 (ph), 966-8898 (fax); Phyllis.Shand@usask.ca

Proposed date of implementation:

September 2015

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.

3. RATIONALE

This statement should include information about program objectives, need for the program, demand, uniqueness, student outcomes including employment or academic opportunities, and the expertise of the sponsoring unit. Please specify how this proposal relates to department/college plans and to Systematic Program Review or other review recommendations.

B.S.A. MAJOR, MINOR IN APPLIED MICROBIOLOGY.

The Applied Microbiology minor was formerly an approved minor area of specialization in the B.S.A. degree. It was removed from the list of minor options upon consolidating the Food Science and Applied Microbiology themes (FAMS) into our current single FABS degree program. However, this move failed to recognize the desire of some students in the college to endeavor in taking microbiological courses as a minor. We propose to return Applied Microbiology as an option for a minor area of specialization in the B.S.A. majors degree family.

It is recognized that students enrolled in various B.S.A. degree programs find themselves in occupations where in-depth knowledge of microbiology is expected or highly complementary (e.g., to the agricultural (soils, crops, animals and plants), environmental and engineering sciences). The approval of Applied Microbiology as a minor will allow the courses students have taken in this focus area to be recognized on their academic transcripts.

4. DESCRIPTION OF PROGRAM CHARACTERISTICS

Please include a complete draft Calendar entry. In particular, please indicate if a template is already in place for such a program (for example, if it follows the general requirements and standards of B.Sc. programs) or if new standards are being introduced for this program. When existing courses are listed, please include the course title as well as the course number.

Required Courses: FABS 212.3 or BMSC 210, and FABS 325.3 or 334.3 or 432.3.
Electives: 12 cu from FABS 325.3, 334.3, 360.3, 430.3, 432.3, 450.3, 452.3, MCIM 321.3, MCIM 390.3, MCIM 391.3, MCIM 487.3, BMSC 220.3, 230.3, BIOL 228.3, LACS 411.3, PLSC 335.3, SLSC 344.3, or other courses as approved by the Department.

Note: Students can count 6 cu from major towards minor.

Motion: That the Applied Microbiology minor area of specialization be approved for students enrolled in B.S.A. major degree programs.

5. RESOURCES

Please describe what resources will be required by the new or revised program. Include information about the impact this proposal will have on resources used by existing programs. Please indicate whether the program be handled within the existing resources of the department or college (e.g., faculty, secretarial support, equipment, information technology, laboratories, library resources, space, etc.) or whether additional resources from the college or from PCIP will be required. Include any required memos from the Dean or department heads regarding resources, on the online portal.

Classes listed in the minor are already being offered and since we expect this minor option will attract 10 or fewer students per year, existing enrollment capacity will be able to accommodate these students (i.e., within labs or classrooms) without the need for additional resources such as TA's or space in labs or classrooms.

6. RELATIONSHIPS AND IMPACT OF IMPLEMENTATION

Please describe the impact this program will have on department activities and on students, and on other departments or colleges. Describe the consultation process followed for this program. Include any memos received, or have them attached to the online portal.

While the impact of this program addition will have a relatively small effect on the activities within and outside of our department, it will enable students to obtain core microbiological training to complement their B.S.A. degree.

Emails were sent to other departments in the college and to microbiology related departments across campus (Microbiology and Immunology, Veterinary Microbiology). Responses were received from Soil Science and Microbiology and Immunology indicating their support for such a minor (see attached). The Department of Bioresource Policy, Business and Economics did not see any conflicts.

Consultations include an agreement with Microbiology and Immunology, Arts and Sciences, where FABS 212.3 will be accepted in place of BMSC 210.3 as a prerequisite (by the instructor issuing a waiver) for upper year Arts and Sciences microbiology courses.

7. BUDGET

Please indicate if budget allocations within the department or the college will change due to this program.

Implementation of this program addition will have very little in the way of budgetary implications. However, the costs that are incurred will include those associated with changes to the calendar, as well as increased costs in lab-based courses, such as FABS 325.3.

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

The proposal for the re-introduction of the minor in Applied Microbiology has gone through three levels of approval in the College of Agriculture and Bioresources - the department, the college Undergraduate Affairs Committee and the Faculty – with approval granted at all three levels without reported controversy. The department also sought, and received, direct support from department heads within the college as well as the Department of Microbiology and Immunology in the College of Medicine before submitting the proposal to the Undergraduate Affairs Committee.

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
Required for all new courses:	□ Course proposal forms □ OR 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

University Course Challenge – December 2015
The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge and are now submitted to the University Course Challenge for approval.

INTERDIVISIONAL

Health Studies

Minor program revisions
Bachelor of Arts and Science Honours and Four-year in Health Studies

Add PHSI 208.6 to clusters as an option to or replacement for BIOL 224.3/BMSC 224.3, as appropriate. Add relevant HIST courses.

Bachelor of Arts and Science Four-year (B.A.&Sc. Four-year) - Health Studies
Bachelor of Arts and Science Honours (B.A.&Sc. Honours) - Health Studies

J3 Major Requirement (57 - 60 credit units) (63 - 66 credit units for Honours)

- HLST 110.3
- HLST 210.3
- HLST 310.3
- HLST 410.6 (Honours program only)

Students must choose one of the following options upon entering the Health Studies program. Concentration within a stream of study, including specific clusters of courses, facilitates depth in specific areas, thus facilitating job training in particular areas or further study in specific disciplines. The approved courses within each stream are listed, but other appropriate courses may be approved by the Program Chair.

Option A: Biology, Development and Health (48 credit units)

This stream emphasizes health in the context of the development of the human being from the cellular and biosystems levels to the level of human health experience. Students focusing on this stream will explore basic biological and physiological processes and how these influence healthy social and emotional development throughout the life span.

Within Option A, students must take courses from at least 4 subjects.

A1. Choose one of the following Science clusters (12 - 15 credit units):

At least 3 credit units must be at the 300-level or higher.

*****Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

i. Development and Body Systems:

- BIOL 224.3 or PHSI 208.6*
- BIOL 226.3

- Choose one of the following:

  1) BMSC 220.3 (BMSC 220 requires BMSC 200.3 as a prerequisite. This course may be used to fulfill A5 below.) and ACB 330.3;

  2) Any two of BIOL 317.3, BIOL 318.3, or BIOL 361.3;

  3) Any two of PHPY 302.3, PHPY 303.3, or ACB 310.3

ii. Neuroscience:

- BIOL 224.3 or PHSI 208.6*
- Any two of PHPY 301.3, BIOL 317.3, or HSC 350.3
- One of BIOL 430.3 or PHPY 404.3 (PHPY 404 requires PHPY 304.3 and PHPY 305.3 as prerequisites. These courses may be used to fulfill A5 below.)

A4. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill A4, A5 or A6 must be at the 300-level or higher.

***Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

- ACB 310.3
- ACB 330.3
- BIOL 224.3 / BMSC 224.3*
- BIOL 226.3
- BIOL 317.3
- BIOL 318.3
- BIOL 361.3
- BIOL 430.3
- BMSC 220.3
- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 404.3
- PHSI 208.6*

A5. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill A4, A5 or A6 must be at the 300-level or higher.

***Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

- ACB 310.3
- ACB 330.3

- BIOL 224.3/BMSC 224.3*
- …
- PHPY 402.3
- PHPY 404.3
- PHSI 208.6*
- TOX 300.3
- TOX 301.3
- TOX 302.3
- TOX 310.3
- TOX 320.3
- TOX 321.3
- TOX 403.3
- TOX 412.3

A6. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill A4, A5 or A6 must be at the 300-level or higher. PHIL 234 is strongly recommended for all students.

- ANTH 231.3
- ANTH 332.3
- ANTH 403.3
- ARCH 270.3
- ARCH 470.3
- ARCH 471.3
- ARCH 472.3
- ECON 234.3
- ENG 242.3
- GEOG 364.3
- GEOG 464.3
- HIST 253.3
- HIST 303.3
- HIST 333.3
- HIST 334.3
- HIST 353.3
- HIST 365.3
- HIST 387.3
- HIST 481.3
- HIST 484.3
- HIST 488.3
- INDG 221.3
- INDG 255.3
- INDG 256.3
- PHIL 224.3
- PHIL 231.3
- …
- SOC 428.3

Option B: Individual, Society, and Health (48 credit units)

Focusing on health at the level of the individual and society, this stream emphasizes those processes and factors that affect an individual's health. Students focusing on this stream will develop an appreciation for

how an individual human's health involves an interaction between the individual's physiological functioning and social factors.

Within Option B students must take courses from at least 4 subjects.

B1. Choose one of the following Science clusters (12 - 15 credit units):

At least 3 credit units must be at the 300-level or higher.

*Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

i. Drugs and Health:

- ~~BIOL 224.3~~ PHSI 208.6*
- PHPY 304.3
- PHPY 305.3
- One of PHPY 402.3, TOX 300.3, or FABS 362.3

ii. Disease and Health:

- BMSC 200.3
- BMSC 210.3
- Any two of MCIM 308.3, MCIM 309.3, MCIM 321.3, MCIM 423.3, or BIOL 436.3

iii. Food and Health:

- NUTR 120.3
- FABS 210.3
- FABS 212.3 or BMSC 210.3
- One of FABS 323.3, FABS 325.3, FABS 362.3, or FABS 371.3

B2. Choose one of the following Arts clusters (12 credit units):

At least 3 credit units must be at the 300-level or higher.

i. Individual Bases for Behaviour:

- One of PSY 207.3, PSY 223.3, PSY 230.3, PSY 260.3 or PSY 357.3
- PSY 242.3 or PSY 246.3
- Any two of PSY 317.3 (PSY 317 requires PSY 213.3, PSY 214.3 or PSY 216.3 as a prerequisite, each of which may be used to fulfill B6 below), PSY 318.3, PSY 347.3, PSY 348.3 or PSY 448.3

ii. The Sociology of Health

- SOC 235.3
- SOC 238.3

- Any two of SOC 328.3, SOC 347.3, SOC 420.3, SOC 421.3, or SOC 428.3

iii. Historical and Philosophical Perspectives on Health

Requires 3 cu of 200-level HIST courses. This course may be used to fulfill the Electives Requirement.

- Any four of HIST 253.3, HIST 303.3, HIST 334.3, HIST 353.3, HIST 365.3, HIST 387.3, HIST 391.3, HIST 481.3, HIST 484.3, HIST 488.3, ~~or~~ PHIL 224.3

B3. Statistics:

B4. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill B4, B5 or B6 must be at the 300-level or higher.
***Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

- BIOL 224.3/BMSC 224.3*
- BIOL 436.3
- BMSC 200.3
- BMSC 210.3
- FABS 210.3
- FABS 212.3
- FABS 323.3
- FABS 325.3
- FABS 362.3
- FABS 371.3
- MCIM 308.3
- MCIM 309.3
- MCIM 321.3
- MCIM 423.3
- NUTR 120.3
- PHPY 304.3
- PHPY 305.3
- PHPY 402.3
- PHSI 208.6*
- TOX 300.3

B5. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill B4, B5 or B6 must be at the 300-level or higher.
***Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

- ACB 310.3
- ACB 330.3
- BIOL 224.3/BMSC 224.3*
- …

- PHPY 404.3
- PHSI 208.6*
- TOX 300.3
- TOX 301.3
- TOX 302.3
- TOX 310.3
- TOX 320.3
- TOX 321.3
- TOX 403.3
- TOX 412.3

B6. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill B4, B5 or B6 must be at the 300-level or higher. PHIL 234 is strongly recommended for all students.

- ANTH 231.3
- …
- GEOG 364.3
- GEOG 464.3
- HIST 253.3
- HIST 303.3
- HIST 333.3
- HIST 334.3
- HIST 353.3
- HIST 365.3
- HIST 387.3
- HIST 481.3
- HIST 484.3
- HIST 488.3
- INDG 221.3
- INDG 255.3
- …
- SOC 428.3

Option C: Culture, Environment and Health (48 credit units)

Focusing on health at the level of community and culture, this stream emphasizes large scale processes and factors that influence human health. Students focusing on this stream will develop a multidimensional understanding of the role of cultural and community processes in health and healing and an appreciation for how groups interact with their environment in healthy and unhealthy ways.

Within Option C, students must take courses from at least 4 subjects.

C1. Choose one of the following Science clusters (12 credit units):

At least 3 credit units must be at the 300-level or higher.

i. Ecology and Environmental Biology:

- BIOL 228.3

- Any three of BIOL 363.3, BIOL 373.3, BIOL 410.3 (BIOL 410 requires BIOL 301.3 and permission of the instructor as prerequisites. BIOL 301.3 may be used to fulfill the Elective Requirement), BIOL 412.3, BIOL 470.3, or BIOL 475.3

ii. Toxicology and the Environment:

- TOX 300.3 (Requires BIOL 224.3/BMSC 224.3 or PHSI 208.6 as a prerequisite. These courses ~~BIOL/BMSC 224~~ may be used to fulfill C5 below.)
- TOX 301.3
- Any two of TOX 302.3, TOX 310.3, TOX 320.3 (TOX 320 requires CHEM 115.3 as a prerequisite. CHEM 115 may be used to fulfill the Elective Requirement.), TOX 321.3, TOX 403.3, TOX 412.3, BIOL 475.3, or CHEM 375.3 (CHEM 375 requires CHEM 115.3 as a prequisite. CHEM 115 may be used to fulfill the Elective Requirement.)

iii. Food and the Environment:

- FABS 210.3
- FABS 212.3
- Any two of FABS 323.3, FABS 360.3, FABS 430.3, BIOL 324.3, or BIOL 342.3

C2. Choose one of the following Arts clusters (12 credit units):

At least 3 credit units must be at the 300-level or higher.

i. Cultural Psychology:

- PSY 224.3
- One of PSY 207.3, PSY 227.3, PSY 260.3, PSY 261.3
- One of PSY 380.3 and PSY 480.3
- One of PSY 207.3, PSY 227.3, PSY 260.3, PSY 261.3, PSY 380.3 or PSY 480.3

ii. History and Philosophy of Health in a Cultural Context:

Requires 3 cu of 200-level HIST courses. This course may be used to fulfill the Electives Requirement.

- HIST 253.3
- HIST 303.3
- HIST 333.3
- HIST 353.3
- HIST 365.3
- HIST 387.3
- HIST 481.3
- HIST 484.3
- HIST 488.3
- PHIL 294.3

iii. Anthropology and Archaeology of Health:

Requires ANTH 111.3 or WGST 112.3. Either of these courses may be used to fulfill the Arts Distribution Requirement or the Electives Requirement.

- ANTH 329.3
- ANTH 332.3
- Any two of ARCH 270.3, ARCH 470.3, ARCH 471.3, or ARCH 472.3

C3. Statistics

C4. Choose 6 credit units from the following:

C5. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill C4, C5 or C6 must be at the 300-level or higher.

*****Students with credit for PHSI 208.6 may not subsequently receive credit for BIOL 224.3. Students may receive credit for both of BIOL 224.3 and PHSI 208.6 only if BIOL 224.3 is completed first. BIOL 224.3 and PHSI 208.6 may not be taken concurrently. BIOL 224.3 is a prerequisite for a number of senior Biology courses including BIOL 317.3; PHSI 208.6 is a prerequisite for most 300-level PHPY courses.

- ACB 310.3
- ACB 330.3
- BIOL 224.3/BMSC 224.3*
- BIOL 226.3
- …
- PHPY 402.3
- PHPY 404.3
- PHSI 208.6*
- TOX 300.3
- TOX 301.3
- TOX 302.3
- TOX 310.3
- TOX 320.3
- TOX 321.3
- TOX 403.3
- TOX 412.3

C6. Choose 6 credit units from the following:

At least 3 credit units chosen to fulfill C4, C5 or C6 must be at the 300-level or higher. PHIL 234 is strongly recommended for all students.

- ANTH 231.3
- …
- GEOG 364.3
- GEOG 464.3
- HIST 256.3
- HIST 303.3
- HIST 333.3
- HIST 334.3
- HIST 353.3
- HIST 365.3
- HIST 387.3
- HIST 481.3
- HIST 484.3

- HIST 488.3
- INDG 221.3
- INDG 255.3
- …
- SOC 421.3
- SOC 428.3

J4 Electives (24 - 27 credit units) (18 - 21 credit units for Honours)

Rationale:
1) The History Program has revised its course offerings to include new courses with health content: HIST 253.3 (*Bringing Up the Bodies in History*), HIST 303.3 (*Sex, Gender, and Sexuality in Africa* [Instructor's work in History of Medicine]), HIST 353.3 (*Pest, Plagues, Pox, and Politics: A History of Health Care in Canada*), HIST 365.3 (*Recipes for a Nation: Food History in Canada*), HIST 387.3 (*Eugenics, Birth Control, and Venereal Disease in Republican China*), HIST 488.3 (*Topics in the History of Development* [Instructor's work in History of Medicine])
2) Revisions to the use of either or both of BIOL 224.3/BMSC 224.3 and/or PHSI 208.6 as a prerequisite for some 300-level have been proposed. Changes have been made to the affected clusters in anticipation of these changes being approved. Notes have been added to help students understand the implications of choosing to take only one of these courses.
2a) Clusters usually require 12 credit units. In those cases where a cluster will include PHSI 208.6, alone or as an option to BIOL 224.3, students who choose PHSI 208.6 will be required to complete 15 credit units of courses for that cluster, in order to provide the same breadth of study (i.e., four different courses).
2b) In the case that a cluster consists mostly of PHPY courses (i.e., B1.i "Drugs and Health"), students will have only the choice of PHSI 208.6, as this course will be the prerequisite for most 300-level PHPY courses.

Interactive Systems Design

Minor program revisions
Bachelor of Arts and Science Four-year in Interactive Systems Design

Revise ART, ARTH and CMPT course options.

Bachelor of Arts and Science Four-year (B.A. & Sc. Four-year) - Interactive Systems Design
J1 Science Distribution Requirement (18 credit units)

- ~~CMPT 106.3*~~
- ~~CMPT 115.3~~
- CMPT 141.3*
- CMPT 145.3

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

- STAT 245.3** or PLSC 214.3

*Note that ~~CMPT 106.3~~ has a prerequisite of CMPT 105.3, which is a program requirement listed in J4 (see below).

*Note that CMPT 141.3 has prerequisites: One of (Computer Science 30, CMPT 105, CMPT 140), and one of (Mathematics B30, Foundations of Mathematics 30, Pre-Calculus 30); or MATH 110 or MATH 123 (can be taken concurrently).

**Note that STAT 245.3 has a prerequisite of MATH 100.3, MATH 104.3 (formerly MATH 101.3), MATH 110.3 or STAT 103.3.

Remaining credit units to be selected from the following areas, such that no more than 6 credit units are from any one area; no more than 3 credit units from MATH:

...

J3 Major Requirement (54 credit units)

Science Requirement (30 credit units)

- CMPT 270.3
- CMPT 281.3
- CMPT 381.3
- CMPT 481.3 (integrative interdisciplinary course)
- CMPT 406.3 or CMPT 405.3 (integrative interdisciplinary course)

Choose **15 credit units** from the following:

At least 3 credit units must be chosen at the 300-level or above

- 200-Level, 300-Level or 400-Level CMPT Courses

- CMPT 275.3, CMPT 350.3, CMPT 352.3, CMPT 355.3, CMPT 394.3 and CMPT 408.3 are recommended choices.
- Appropriate Special Topics courses may also be available in some terms.

Art Requirement (24 credit units)

Choose one of the following options

- ART 211.6 and ART 311.6
- ART 212.6 and ART 312.6
- ART 213.6 and ART 313.6
- ART 216.6 and ART 316.6
- ART 214.6, or (ART 241.3 and ART 242.3); and ART 341.3 and 6 credit units senior ART courses
- ART 236.3 and ART 237.3 and ART 338.3; and ARTH 250.3 or ARTH 251.3
- ARTH 250.3 or ARTH 251.3; and ~~ARTH 350.3 and 6~~ 9 credit units senior ARTH courses including at least 3 credit units at the 300-level or above.

Choose **9 credit units** from the following:

- PSY 252.3
- PSY 253.3
- PSY 255.3
- PSY 226.3
- PSY 256.3
- PSY 213.3
- PSY 214.3
- PSY 216.3

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

ARTH 250.3 may only be chosen to fulfill this requirement if not taken as part of the ART/ARTH requirements above.

- ARTH 250.3
- HIST 284.3
- PHIL 236.3
- SOC 244.3
- SOC 246.3
- WGST 201.3

J4 Electives Requirement (30 credit units)

Required Cognate Courses (~~9~~ 6 credit units)

- ARTH 120.3
- ARTH 121.3
- ~~CMPT 105.3~~

Open Electives (~~21~~ 24 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 4-year program subject to the condition that not more than 54 credit units may be at the junior level; at least 66 credit units must be at the 200 or higher level.

Rationale: The Department of Art and Art History has reorganized some of their courses and the changes to the ART and ARTH courses reflect that.
CMPT 105, 111, and 115 have been deleted, and CMPT 140, 141, and 145 have been created. CMPT 141 and 145 are the appropriate substitutions to allow students to be prepared for senior study in this program.
CMPT 406 is a new course designed specifically for students in this program, to stand as the default integrative interdisciplinary “capstone” course. This new course is an alternative to the existing course, CMPT 405.3, which was created for the B.Sc. Honours in Computer Science. The new course will provide ISD students with a capstone experience that does not presume Honours-level computer science performance, but is tailored to the broader range of skills expected from these students.
Relevant material from CMPT 106 will be moved into CMPT 306 and CMPT 406, where it can be considered at a more advanced level.

New course(s)
CMPT 406.3 Game Design Workshop
This course will focus on topics of game design, game software engineering, and project management. Students will engage in a significant project in a large team of between 8 and 15 students (common in independent game development studios) and build a game of sufficient sophistication to warrant potential publication on an app or software store. This course is intended as a capstone for the ISD program, but is open to students in other programs also.
Prerequisite(s): CMPT 306
Instructor(s): K. Stanley, R. Mandryk
Rationale: This course is designed specifically for students in the Interactive Systems Design program, to stand as the default integrative interdisciplinary “capstone” course. This new course is an alternative to the existing course, CMPT 405.3, which was created for the B.Sc. Honours in Computer Science. The new course will provide ISD students with a capstone experience that does not presume Honours-level

computer science performance, but is tailored to the broader range of skills expected from these students.
CMPT 406 will expand on aspects of game design, architecture and testing, focusing on the complete development cycle in a way that is not currently possible in the pre-requisite course CMPT 306, as many of the algorithmic and programming fundamentals must be covered. CMPT406 will also cover development for non-PC platforms like handhelds and consoles that are also not possible in CMPT306 due to time constraints. Like CMPT 371, this course will focus on the development of software systems in large teams, but will employ different industry standard tools used in the game industry to manage large teams spanning both the artistic and programmatic side of the discipline. While the basics of building software in teams will be the same in both cases, CMPT 406 will offer specific insights into working on asset rich projects specific to game development.
As a capstone course with a strong focus on software and interactive system design methods and team-based problem solving and development, one hour per week will be devoted to students reporting on their team projects using standard industry techniques (e.g. SCRUM). The faculty instructor will supervise, critique and mentor these interactions, helping students develop a working knowledge of team-based tools used in industry, and providing students with valuable professional experience.

DIVISION OF HUMANITIES AND FINE ARTS

Classical, Medieval & Renaissance Studies

Minor program revisions
Bachelor of Arts Honours and Double Honours in Classical, Medieval & Renaissance Studies
B.A. Honours: Change the arrangement of the second language requirements so that 6 credit units appear in the A2 Language requirement (with an additional 3 credit units language requirement drawing from the standard list of courses) and the remaining 6 credit units appear in A6 Major Requirements.
B.A. Double Honours: Revise program requirements per College of Arts & Science.

Bachelor of Arts Honours (B.A. Honours) - Classical, Medieval & Renaissance Studies
A2 Language Requirement (~~12~~ 9 credit units)

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

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses

~~Choose 6 additional credit units from one of the following:~~

- ~~100-Level , 200-Level , 300-Level or 400-Level GRK Courses~~
- ~~100-Level , 200-Level , 300-Level or 400-Level HEB Courses~~
- ~~100-Level , 200-Level , 300-Level or 400-Level LATN Courses~~
- ~~ENG 301.3, ENG 310.3~~
- ~~FREN 122.3, FREN 125.3, FREN 128.3, FREN 212.3, FREN 218.3, FREN 220.3~~
- ~~GERM 202.3, GERM 204.3, GERM 214.3, GERM 217.3~~
- ~~SPAN 202.3, SPAN 204.3, SPAN 214.3, SPAN 217.3~~

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

- CHIN 114.3
- CHIN 117.3
- CREE 101.6
- CREE 110.3
- CREE 120.6
- ENG 110.6
- ENG 111.3
- ENG 112.3
- ENG 113.3
- ENG 114.3
- ESL 115.3
- ESL 116.3
- FREN 103.3
- FREN 106.3
- FREN 122.3
- FREN 125.3
- FREN 128.3
- FREN 218.3
- GERM 114.3
- GERM 117.3
- GRK 112.3
- GRK 113.3
- HEB 114.3
- HEB 117.3
- HNDI 114.3
- HNDI 117.3
- JPNS 114.3
- JPNS 117.3
- LATN 112.3
- LATN 113.3
- LIT 100.6
- RUSS 114.3
- RUSS 117.3
- SNSK 114.3
- SNSK 117.3
- SPAN 114.3
- SPAN 117.3
- UKR 114.3
- UKR 117.3

Any senior-level language course provided that the prerequisite is met and not more than 6 credit units in one subject are used for the Humanities or Languages Requirement.

A6 Major Requirement (~~54~~ 60 credit units)

Of the total 54 credit units required, at least 6 credit units must be at the 300-level and 12 credit units at the 400-level (includes CMRS 401.3 and CMRS 402.3).

- CMRS 401.3
- CMRS 402.3
- HIST 494.0

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

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses
- ENG 301.3, ENG 310.3
- FREN 122.3, FREN 125.3, FREN 128.3, FREN 212.3, FREN 218.3, FREN 220.3
- GERM 202.3, GERM 204.3, GERM 214.3, GERM 217.3
- SPAN 202.3, SPAN 204.3, SPAN 214.3, SPAN 217.3

Period Requirements

Areas of Concentration (24 credit units)

Classical, Medieval and Renaissance Studies Electives (6 credit units)

A7 Electives Requirement (~~24~~ 21 credit units)

Bachelor of Arts Double Honours - Classical, Medieval & Renaissance Studies – Major 1

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. For further details, please see the Academic Information and Policies section.

The major average for the Classical, Medieval and Renaissance Studies portion of a Double Honours program will be calculated using the grades earned in all courses eligible to be included in the program requirements.

Students must complete at least two-thirds of the Major 2 program requirements (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan to meet the mandatory residency requirement.

Please note: The same course may not be used to fulfill requirements in both CMRS and the second major.

Note: No more than 42 credit units may be in one subject, and no more than 6 credit units from one subjects may be used to meet Requirements A1 to A4. A maximum of 12 credit units of 100-level courses may be used toward Requirement A6 below.

A1 Basic Humanities Requirement (minimum 12 credit units)

- CMRS 110.3 and CMRS 111.3; or INTS 101.12

Choose the remaining 6 credit units from the following lists:

Most 200-level courses required for the CMRS program have 100-level prerequisites. Students should therefore consider a selection from the following courses to fulfill prerequisite requirements for the CMRS program:

- CLAS 110.3
- CLAS 111.3
- ENG 110.6
- ENG 111.3
- ENG 112.3
- ENG 113.3
- ENG 114.3
- HIST 110.3
- HIST 111.3
- HIST 121.3

Students may also choose from the following to fulfill the A1 requirement. Courses chosen must be outside the major subject area.

- *Common Humanities list.*

A2 Language Requirement (9 credit units)

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

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses

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

- CHIN 114.3
- CHIN 117.3
- CREE 101.6
- CREE 110.3
- CREE 120.6
- ENG 110.6
- ENG 111.3
- ENG 112.3
- ENG 113.3
- ENG 114.3
- ESL 115.3
- ESL 116.3
- FREN 103.3
- FREN 106.3
- FREN 122.3
- FREN 125.3
- FREN 128.3
- FREN 218.3
- GERM 114.3
- GERM 117.3
- GRK 112.3

- GRK 113.3
- HEB 114.3
- HEB 117.3
- HNDI 114.3
- HNDI 117.3
- JPNS 114.3
- JPNS 117.3
- LATN 112.3
- LATN 113.3
- LIT 100.6
- RUSS 114.3
- RUSS 117.3
- SNSK 114.3
- SNSK 117.3
- SPAN 114.3
- SPAN 117.3
- UKR 114.3
- UKR 117.3

Any senior-level language course provided that the prerequisite is met and not more than 6 credit units in one subject are used for the Humanities or Languages Requirement.

A3 Science Requirement (6 credit units)

Standard list.

A4 Social Science Requirement (6 credit units)

Standard list.

A5 General Requirement (6 credit units)

Standard list.

A6 Major Requirement (27 credit units)

- CMRS 401.3
- CMRS 402.3
- HIST 494.0

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

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses
- ENG 301.3, ENG 310.3
- FREN 122.3, FREN 125.3, FREN 128.3, FREN 212.3, FREN 218.3, FREN 220.3
- GERM 202.3, GERM 204.3, GERM 214.3, GERM 217.3
- SPAN 202.3, SPAN 204.3, SPAN 214.3, SPAN 217.3

Areas of Concentration (12 credit units)

Note: 298, 299, 398, 399, 498, 499 courses may be used toward period requirements depending on course content.

Courses must be selected from one of the following 3 areas:

History & Archaeology

- ARCH 116.3
- ARCH 243.3
- ARCH 244.3
- ARCH 252.3
- ARCH 257.3
- ARCH 258.3
- ARCH 356.3
- ARCH 466.3
- CLAS 220.3
- CLAS 225.3
- CLAS 240.3
- CLAS 242.3
- CLAS 247.3
- CLAS 248.3
- CLAS 252.3
- CLAS 356.3
- CLAS 357.3
- CMRS 333.3
- CMRS 403.3
- CMRS 433.3 (if the object of study is a historical document)
- FREN 251.3
- GEOG 340.3
- GRK 400.3*
- HIST 200.6
- HIST 202.3
- HIST 205.3
- HIST 207.3
- HIST 208.3
- HIST 209.3
- HIST 214.3
- HIST 217.3
- HIST 218.3
- HIST 221.3
- HIST 222.3
- HIST 223.3
- HIST 300.3
- HIST 302.3
- HIST 306.3
- HIST 307.3
- HIST 308.6
- HIST 309.3
- HIST 313.3
- HIST 330.3

- HIST 331.3
- HIST 335.3
- HIST 402.3
- HIST 403.3
- HIST 414.3
- HIST 421.3
- HIST 424.3
- LATN 400.3*
- CMRS Special Topics courses can be used with approval of the Program Director.

Literature, Fine Arts & Language

- ARTH 120.3
- ARTH 260.3
- ARTH 308.3
- ARTH 309.3
- CLAS 225.3
- CLAS 227.3
- CLAS 228.3
- CLAS 240.3
- CLAS 242.3
- CLAS 259.3
- CMRS 333.3
- CMRS 403.3
- CMRS 433.3 (if the object of study is a literary document)
- DRAM 203.3
- DRAM 303.3
- DRAM 401.3
- ENG 217.3
- ENG 224.3
- ENG 225.3
- ENG 277.3
- ENG 284.3
- ENG 286.3
- ENG 290.6
- ENG 293.3
- ENG 301.3
- ENG 310.3
- ENG 311.3
- ENG 312.3
- ENG 313.3
- ENG 314.3
- ENG 316.3
- ENG 319.3
- ENG 322.3
- ENG 324.3
- ENG 326.3
- ENG 402.3
- ENG 404.3
- ENG 406.3
- ENG 420.3
- FREN 220.3

- FREN 251.3
- FREN 317.3
- GEOG 340.3
- GRK 112.3
- GRK 113.3
- GRK 202.3
- GRK 203.3
- GRK 400.3*
- HEB 114.3
- HEB 117.3
- HIST 207.3
- LATN 112.3
- LATN 113.3
- LATN 202.3
- LATN 203.3
- LATN 400.3*
- MUS 105.3
- MUS 150.3
- MUS 250.3
- MUS 303.3
- MUS 450.3
- MUS 464.3
- MUS 465.3
- RLST 219.3
- RLST 253.3
- RLST 254.3
- RLST 365.3
- CMRS Special Topics courses can be used with approval of the Program Director.

Classical Thought and the History of Ideas

- CLAS 252.3
- CLAS 259.3
- CTST 200.3
- GRK 400.3*
- HIST 309.3
- HIST 330.3
- HIST 331.3
- HIST 414.3
- HIST 421.3
- HIST 424.3
- LATN 400.3*
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 240.3
- PHIL 412.3
- PHIL 413.3
- POLS 236.3
- RLST 253.3

- RLST 254.3
- RLST 283.3
- RLST 300.3
- RLST 303.3
- RLST 316.3
- RLST 359.3
- RLST 361.3
- RLST 363.3
- CMRS Special Topics courses can be used with approval of the Program Director.

* A shell course that may be taken more than once

A7 Electives Requirement (57 credit units)

Major 2 (36 - 42 credit units)

- Double Honours requirements in second discipline

Open Electives (15-21 credit units)

Arts and Science courses, or those from other College that have been approved for Arts and Science credit, to complete the requirements for 120 credit unit Honours program. Of the 120 credit units required, at least 66 must be at the 200-level or higher and no more than 60 in one subject.

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

Double Honours - Classical, Medieval & Renaissance Studies – Major 2

Double Honours Programs may be taken in combinations of two subjects. In this program at least 36 credit units will normally be taken in each subject. For further details, please see the Academic Information and Policies section.

Of the requirements listed in Major 2, some courses (usually 6 credit units) may be used to fulfill Requirements 1 to 5 of Major 1. If this happens, the result will be that the number of Open Electives in Requirement 7 will be increased accordingly to continue to require a total of 120 credit units for the Double Honours degree.

The major average for the Classical, Medieval and Renaissance Studies portion of a Double Honours program will be calculated using the grades earned in all courses eligible to be included in the program requirements.

Students must complete at least two-thirds of the Major 2 program requirements (to the nearest highest multiple of 3 credit units) from the University of Saskatchewan to meet the mandatory residency requirement.

Note that the same course may not be used to fulfill requirements in both CMRS and the cognate program.

Program Requirements (36 credit units)

- CMRS 110.3 and CMRS 111.3; or INTS 101.12*
- CMRS 401.3
- CMRS 402.3
- HIST 494.0

* Please note that only 6 credit units of INTS 101.12 will be used towards this requirement. The remaining 6 credit units may be used to meet distribution or electives requirements, as appropriate

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

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses

Choose **6 additional credit units** from one of the following:

- 100-Level , 200-Level , 300-Level or 400-Level GRK Courses
- 100-Level , 200-Level , 300-Level or 400-Level HEB Courses
- 100-Level , 200-Level , 300-Level or 400-Level LATN Courses
- ENG 301.3, ENG 310.3
- FREN 122.3, FREN 125.3, FREN 128.3, FREN 212.3, FREN 218.3, FREN 220.3
- GERM 202.3, GERM 204.3, GERM 214.3, GERM 217.3
- SPAN 202.3, SPAN 204.3, SPAN 214.3, SPAN 217.3

Areas of Concentration (12 credit units)

Note: 298, 299, 398, 399, 498, 499 courses may be used toward period requirements depending on course content.

Courses must be selected from one of the following 3 areas:

History & Archaeology

- *Same list as for Major 1*

Literature, Fine Arts & Language

- *Same list as for Major 1*

Classical Thought and the History of Ideas

- *Same list as for Major 1*

Rationale: The change to the language distribution between A2 and A6 will bring us into alignment with the A2 language requirement of 9 credit units, in which no more than 6 credit units may be taken in any

one subject area. Because it is our intention that students be allowed to take up to 12 credit units in Latin, Greek, or Hebrew, if they so choose, we must split these requirements between A2 and A6.
The Double Honours program is being reformatted into Major 1 and Major 2 options to align with standard practice. This change will allow the program to be scribed in Degree Works, and will allow for better reporting on students choosing this program.

English

Adding a Lower-Level of Concentration
Minor in English

English - Minor

The Minor in English is designed for students majoring in another subject who have an interest in English literature and communications. The Minor will help you to gain the research, writing, and critical thinking skills taught in English classes, and provide you with official credit for the additional concentration in these areas and for your demonstrated interest in interdisciplinary approaches to knowledge.

NOTE: This Minor is not for English majors; it may be taken only by students in an Arts & Science degree majoring in fields of study other than English.

Major Average and Residency Requirements:

The Minor average in English will be calculated using the grades earned in all courses eligible to be included in the Minor program requirements. Students must complete at least two-thirds of the program requirements (rounded to the nearest highest multiple of 3 credit units) using courses offered by the University of Saskatchewan to meet the Residency requirement.

Requirements (21 credit units)

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

- 100-Level ENG courses

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

- 300-Level ENG courses

Choose **9 credit units** from the following:

- 200-Level , 300-Level, or 400-Level ENG courses

Rationale: Historically, the Department of English has focused on programs for Majors, but has had numerous requests for a Minor in English from students who are majoring in other disciplines but who have a keen interest in literature and communications and who would like to have an acknowledgement of their additional concentration in these areas on their university transcripts. The department agrees that it is worthwhile to give students credit for their interest in interdisciplinary studies that complement one another and allow for new knowledge synergies. At the current time, the department offers only a specialized Minor in Canadian Literature, but no general Minor for students whose interests lie outside Canadian literary studies. Many other departments within the College offer general Minors for students who would like sub-categories of interdisciplinary specialization, and many English departments across

Canada offer general Minors in English. The lack of such a general Minor is thus an anomaly that we would like to correct.

Linguistics

Minor program revision:
Bachelor of Arts Four-year in Linguistics – Language and Speech Sciences stream
Add LING 370 to required courses in B7; revise requirements from both of LING 243 and 340 to either of these courses. Add LING 341 as an option to LING 347. Revise requirement for neuroanatomy or neuropsychology course to include a senior LING course as an option.

Bachelor of Arts Four-year (B.A. Four-year) - Linguistics - Language and Speech Sciences Stream
B6 Major Requirement (36 credit units)

No more than **6 credit units** of 100 level courses can be used to satisfy the Major requirements.

Part A. Linguistics courses requirement:

- LING 241.3
- LING 242.3
- LING 243.3 or LING 340.3
- ~~LING 340.3~~
- LING 343.3
- LING 341.3 or LING 347.3
- LING 370.3

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

- 200-Level, 300-Level or 400-Level LING Courses

Part B. Cognate disciplines requirement: 15 credit units as follows:

- 3 credit units research methods or statistical analysis selected from LING 345.3, LING 403.3; PSY 233.3, PSY 234.3, PSY 235.3; STAT 242.3, STAT 244.3, STAT 245.3 STAT 246.3
- 3 credit units Child Development - PSY 213.3
- 3 credit units Psychology selected from: PSY 252.3, PSY 253.3, PSY 256.3
- 3 credit units Neuroanatomy or Neuropsychology selected from: PSY 242.3, PSY 246.3; or 3 credit units 200-level, 300-Level, or 400-Level LING

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

- 200-Level, 300-Level or 400-Level LING Courses

or ACB 310.3; ACB 334.3; BIOL 224.3/BMSC 224.3; BIOL 317.3

* Students are advised to monitor the entrance requirements for SLP/Audiology programs for which they intend to apply. If their chosen program requires biology/anatomy courses, these should be chosen in their undergraduate program. If the chosen undergraduate program contains no such requirements, students are recommended to take 3 additional credit units senior LING instead.

Rationale: The inclusion of a newly created Ling 370.3 course is aimed at strengthening the course offerings within the stream by including a course addressing the fundamentals of speech and language pathology. Since this stream targets students who are planning to become speech-language pathologists, the course introduces them to the basics of their future profession and will ease the transition to the MSLP degrees the program graduates are likely to pursue.
Ling 243.3 (Morphology) and Ling 340.3 (Syntax) are structural linguistics courses that are less central to the SLP sciences, and the ability to choose between the two will make the program more flexible, particularly when these courses are offered on "every other year" basis.
Both Ling 347.3 (Discourse) and Ling 341.3 (Semantics) are structural linguistics courses of some relevance to Speech and language pathology. The ability to choose between the two courses will make the program more flexible.
The requirement for 3 credit units in neuroanatomy or neuropsychology was originally included to reflect the entrance requirement for the University of Alberta Speech and Language Pathology (SLP) graduate program. However, most Masters of SLP programs in Canada (such as at Dalhousie and UWO) do not require these courses as prerequisites. It therefore is best to offer an option for students to take additional LING courses, which may be more relevant for other programs. Students will be advised to select the appropriate courses given the requirements in their target MSLP program(s).

New course(s):
LING 370.3 Introduction to Speech and Language Pathology
1/2 (3L) This course provides an introduction to the field of communication sciences and disorders, as well as an overview of professional practice in Speech-language Pathology. It will focus on disordered communication and development, types of communication disorders, and treatment pathways. The course will begin with an overview of the profession and clients, followed by an introduction to the anatomy and physiology of the speech production mechanism. We will then investigate articulation, language, literacy, cognitive, fluency, voice, swallowing, and hearing disorders affecting communication with reference to various diagnostic and treatment options. An exploration of case studies will be used to illustrate assessment practices, identification and diagnosis, therapeutic avenues, and data measured outcomes for clients impacted by communication disorders. Time will be awarded to aspects of client and counseling, English language learners, augmentative communication systems, and ethical expectations within the field. Material will be presented through class lectures, assigned readings, and class discussions.
Prerequisite(s): LING 111.3, LING 112.3, LING 241.3, and LING 242.3
Instructor(s): Veronika Makarova, Tiffany Keyworth
Rationale: This course is created to serve as one of the core courses in the Speech and Language Sciences stream of Linguistics Four-year BA. Since this stream targets students who are planning to become speech-language pathologists, the course introduces them to the basics of their future profession and will ease the transition to the MSLP degrees the program graduates are likely to pursue.

Religion & Culture

New course(s):
RLST 255.3 Doukhobor Culture in Canada
1/2 (3L) This course provides an overview of the history, beliefs, music, language and the way of life of a rebellious non-conformist Canadian ethnic and religious minority -- Doukhobors (Spirit Wrestlers). The course introduces the early history of the Doukhobor religion, the settlement of Doukhobors in Saskatchewan and BC, and the subsequent development of Doukhobor communities in the 20th-21st century Canada. The dynamics of conflict between Doukhobors and Canadian state are explained via the challenges of multiculturalism. The course examines Doukhobor beliefs, religious practice and the way of life; their healing techniques; crafts and arts; as well as the unique genres of Doukhobor choral music. The course provides a sociolinguistic analysis of ancestral language maintenance in the Doukhobor communities in Canada. Attention is given to the role of women in the Doukhobor communities and the descriptions of women in Doukhobor spiritual texts.
Prerequisite(s): 24 credit units of university-level courses

Note: Students with credit for RLST 398.3: Doukhobors and Canadian Multiculturalism may not take this course for credit.
Instructor: Veronika Makarova
Rationale: This course was piloted in 2014-15 as a Special topics course, and was found to be attractive to students. The course also allowed community-university interactions as guest speakers from the Doukhobor community were invited in class. The course provides a description of one of the disappearing Saskatchewan and Canadian minorities, and thus adds to the "sense of place".
This course may be used in any of the three categories (A, B, C) in the Religion & Culture programs.

DIVISION OF SCIENCE

Anatomy & Cell Biology

Minor program revisions
Bachelor of Science Honours, Double Honours, Four-year and Three-year in Anatomy & Cell Biology
Remove BIOL 224.3/BMSC 224.3 as an option to PHSI 208.6.

Bachelor of Science Four-year (B.Sc. Four-year) - Anatomy & Cell Biology
C6 Major Requirement (~~60~~ 63 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3

Anatomy & Cell Biology Electives
…

C7 Electives Requirement (18 ~~21~~ credit units)

Suggested Sequence of Courses
Year 1
Year 2

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- CHEM 250.3
- PLSC 214.3 or STAT 245.3 or STAT 246.3
- other program electives (~~6~~ **3** credit units)

Students entering second year should consult with a Departmental academic advisor.
Year 3
Year 4

Bachelor of Science Three-year (B.Sc. Three-year) - Anatomy & Cell Biology
C6 Major Requirement (~~42~~ 45 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3

Anatomy & Cell Biology Electives

…

C7 Electives Requirement (9 ~~12~~ credit units)

Suggested Sequence of Courses

Year 1
Year 2

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- CHEM 250.3
- other program electives (~~9~~ **6** credit units)

Students entering second year should consult with a Departmental academic advisor.

Year 3

Bachelor of Science Honours (B.Sc. Honours) - Anatomy & Cell Biology
C6 Major Requirement ~~(60~~ 63 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ACB 405.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- CHEM 250.3

Anatomy & Cell Biology Electives

…

C7 Electives Requirement (18 ~~21~~ credit units)

Suggested Sequence of Courses

Year 1

Year 2

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- CHEM 250.3
- PLSC 214.3 or STAT 245.3 or STAT 246.3
- other program electives (3 credit units)

Students entering second year should consult with a Departmental academic advisor.

Year 3

Year 4

Bachelor of Science Double Honours - Anatomy & Cell Biology and Biochemistry - Majors 1 and 2

Double Honours Majors Averages

The major average for Anatomy & Cell Biology will be calculated using the grades in all ACB courses; BIOL 120.3; ~~BIOL 224.3/BMSC 224.3~~; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

The major average for Biochemistry will be calculated using the grades in all BIOC and all CHEM courses; ~~BIOL 224.3/BMSC 224.3;~~ BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; and PHSI 208.6.

Double Honours Residency Requirements

To meet the residency requirement for the Anatomy & Cell Biology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of ACB 310.3; ACB 325.3; ACB 330.3; ACB 331.3; ACB 405.3; 6 credit units 300-Level or 400-Level ACB; BIOL 120.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and ACB 401.6 (if chosen) from the University of Saskatchewan. ACB 401.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Biochemistry major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BIOC 300.3; BIOC 310.3; BIOC 311.3; BIOC 430.3 or BIOC 436.3; BIOC 490.0; 9 credit units 400-Level BIOC; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 112.3; CHEM 115.3; CHEM 250.3; and BIOC 489.6 (if chosen) from the University of Saskatchewan. BIOC 489.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ACB 405.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3

- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BIOC 300.3
- BIOC 310.3
- BIOC 311.3
- BIOC 430.3 or BIOC 436.3
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- CHEM 250.3

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

…

C7 Electives Requirement (6 ~~9~~ credit units)

Bachelor of Science - Double Honours - Anatomy & Cell Biology and Microbiology & Immunology - Majors 1 and 2

Double Honours Major Averages

The major average for Anatomy & Cell Biology will be calculated using the grades in all ACB courses; BIOL 120.3; ~~BIOL 224.3/BMSC 224.3;~~ BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

The major average for Microbiology & Immunology will be calculated using the grades in all MCIM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

Double Honours Residency Requirements

To meet the residency requirement for the Anatomy & Cell Biology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of ACB 310.3; ACB 325.3; ACB 330.3; ACB 331.3; ACB 405.3; 3 credit units from ACB 333.3, ACB 334.3, ACB 400.3, or ACB 406.3; BIOL 120.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and ACB 401.6 (if chosen) from the University of Saskatchewan. ACB 401.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Microbiology & Immunology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; CHEM 250.3; MCIM 321.3; MCIM 326.3; MCIM 390.3; MCIM 391.3; MCIM 416.3; MCIM 417.3; MCIM 423.3; MCIM 487.3; MCIM 490.3; and MCIM 491.6 (if chosen) from the University of Saskatchewan. MCIM 491.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ACB 405.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 391.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3
- MCIM 490.0
- CHEM 250.3

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

…

C7 Electives Requirement (6~~-9~~ credit units)

Rationale: The most important justification for this proposal is to ensure that all of the students in a biomedical sciences program enter the third year with a broad and common background in physiology. When we first created the common two year program in the biomedical sciences and agreed that BIOL/BMSC 224 would be the physiology component in the second year, Physiology and Pharmacology had to re-design the third year courses to ensure that the content covered a range of topics that are either not covered in BIOL/BMSC 224 or not covered in what we consider to be sufficient depth. We continued to offer PHSI 208 because that course was a required course in the Colleges of Nursing and Pharmacy and Nutrition, but restricted enrollment to students in those Colleges. A couple of years ago, however, Physiology was asked by the College of Pharmacy and Nutrition and the College of Dentistry to open PHSI 208 to all Arts and Science students so that those Colleges could use PHSI 208 as a prerequisite for entry into their programs. The Biomedical Science Departments agreed at that time to change our program requirements to allow students to take either BIOL/BMSC 224 or PHSI 208 as their introductory physiology course.
Many BMSC students are now choosing to take PHSI 208, presumably because they want to retain the option to apply to Dentistry or Pharmacy and Nutrition, because of their interest in human physiology, or because they think that PHSI 208 will better prepare them for future studies in a health professional college. The fact that we now have two groups of students entering our third year courses with different backgrounds forces us to repeat content covered in PHSI 208. We have received complaints both from students who find one or more third year courses to be repeating content from PHSI 208 and from students who feel that taking only BIOL/BMSC 224 left them at a disadvantage. Having PHSI 208 become the sole physiology component in the BMSC common core will allow us to redesign our third year courses to eliminate repetition and have all students start with a similar strong introduction to physiology. Even though PHSI 208 is not a prerequisite for upper year courses in the MCIM or BIOC programs, this change is being proposed for those programs as well. One of the most important rationales for having a common two years is that it allows students entering the biomedical sciences to get a solid foundation in a range of biomedical disciplines and to use this knowledge to make an informed decision about which of our programs they wish to pursue. Allowing students to choose a physiology course that would prevent them from directly pursuing a degree in PHPY would therefore defeat the purpose of a common two years. Furthermore, the College of Medicine is currently working toward a reorganization of the biomedical programs, and one of the rationales for this reorganization is to ensure that all graduating students will have a solid introduction to the basic biomedical sciences that they would need to pursue a degree in medicine or other professional health colleges. We think that requiring them to take PHSI 208 is an important step toward this goal.

Minor course revisions
ACB 221.3 Gross Anatomy

Prerequisite change:
Old prerequisite(s): (BIOL 120 and 121) or BMSC 224 or BIOL 224
New prerequisite(s): (BIOL 120 and 121) or BMSC 224.3/BIOL 224.3, or PHSI 208.6
Rationale: PHSI 208.6 is an appropriate, optional prerequisite for this course.

ACB 310.3 Basic Human Anatomy
ACB 334.3 Introductory Neuroanatomy
Prerequisite change:
Old prerequisite(s): BMSC 224.3/BIOL 224.3
New prerequisite(s): BMSC 224.3/BIOL 224.3 or PHSI 208.6
Rationale: PHSI 208.6 is an appropriate, optional prerequisite for this course.

ACB 330.3 Principles of Development
Prerequisite change:
Old prerequisite(s): BMSC 220.3 and BMSC 224.3/BIOL 224.3
New prerequisite(s): BMSC 220.3; and BMSC 224.3/BIOL 224.3 or PHSI 208.6
Change to Note:
Old Note: Students with credit for ACB 201 cannot take ACB 330 for credit.
New Note: Students with credit for ACB 201 (discontinued course) cannot take ACB 330 for credit.
New course description: An introduction to the cellular and molecular mechanisms that regulate embryonic development in animals. Topics include fertilization, establishment of the major tissue/organ types, and body axis patterning. The course covers examples of embryogenesis in both vertebrate and invertebrate species in order to highlight key developmental principles.
Rationale: PHSI 208.6 is an appropriate, optional prerequisite for this course. Note is updated for clarity. Course description is updated to align with the current focus of the course.

ACB 406.3 Comparative Vertebrate Histology
Prerequisite change:
Old prerequisite(s): BMSC 200.3 and BMSC 224.3/BIOL 224.3
New prerequisite(s): BMSC 220.3; and BMSC 224.3/BIOL 224.3 or PHSI 208.6
Rationale: PHSI 208.6 is an appropriate, optional prerequisite for this course. BMSC 220.3 provides introductory content in Cell Biology which is necessary for this course but was accidentally omitted from the prerequisite at the time that the course was created. (BMSC 200 is a pre/co-requisite for BMSC 220 so it is no longer necessary to list this as it would be redundant.)

Applied Mathematics

Minor program revisions
Bachelor of Science Honours, Four-year and Three-year in Applied Mathematics
Replace deleted introductory CMPT courses with new CMPT courses.

C1 Science Requirement (minimum 15 credit units)

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

- CMPT 141.3 ~~CMPT 111.3~~ or CMPT 116.3
- CMPT 145.3 ~~CMPT 115.3~~ or CMPT 117.3

Remaining credit units to be selected from the following areas, such that no more than 6 credit units are from any one area:
…

Rationale: Reflects recent changes to introductory CMPT courses.

Biochemistry

Minor program revisions
Bachelor of Science Honours, Double Honours, Four-year and Three-year in Biochemistry
Remove BIOL 224.3/BMSC 224.3 as an option to PHSI 208.6.

Bachelor of Science Four-year (B.Sc. Four-year) - Biochemistry
C6 Major Requirement (~~54~~ 57 credit units)

- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOC 300.3
- BIOC 310.3
- BIOC 311.3 or MCIM 391.3
- BIOC 412.3
- BIOC 430.3 or BIOC 435.3
- BIOC 436.3
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- BINF 200.3 or BINF 210.3
- CHEM 250.3

Biochemistry Electives (12 credit units)

…

C7 Electives Requirement (24 ~~27~~ credit units)

Suggested Sequence of Courses

Year 1
Year 2
Students entering second year must consult with a faculty advisor in the Biochemistry Department.

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- CHEM 250.3
- BINF 200.3 or BINF 210.3
- Other program electives

Year 3
Year 4

Bachelor of Science Three-year (B.Sc. Three-year) - Biochemistry
C6 Major Requirement (39 credit units)

- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOC 300.3
- BIOC 310.3 or BIOC 311.3 or MCIM 391.3
- BINF 200.3 or BINF 210.3
- CHEM 250.3

Biochemistry Electives

…

C7 Electives Requirement (15 ~~18~~ credit units)

Suggested Sequence of Courses

Year 1

Year 2

Students entering second year must consult with a faculty advisor in the Biochemistry Department.

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BINF 200.3 or BINF 210.3
- CHEM 250.3
- Other program electives

Year 3

Bachelor of Science Honours (B.Sc. Honours) - Biochemistry

C6 Major Requirement (~~60~~ 63 credit units)

- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOC 300.3
- BIOC 310.3
- BIOC 311.3 or MCIM 391.3
- BIOC 412.3
- BIOC 430.3 or BIOC 435.3
- BIOC 436.3
- BIOC 489.6
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- BINF 200.3 or BINF 210.3
- CHEM 250.3

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

-

C7 Electives Requirement (18 ~~21~~ credit units)

Suggested Sequence of Courses

Year 1

Year 2

Students entering second year must consult with a faculty advisor in the Biochemistry Department.

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- CHEM 250.3
- BINF 200.3 or BINF 210.3
- Other program electives

Year 3
Year 4

Bachelor of Science Double Honours - Biochemistry and Anatomy & Cell Biology - Majors 1 and 2

Double Honours Major Averages

The major average for Biochemistry will be calculated using the grades in all BIOC and all CHEM courses; ~~BIOL 224.3/BMSC 224.3;~~ BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; and PHSI 208.6.

The major average for Anatomy & Cell Biology will be calculated using the grades in all ACB courses; BIOL 120.3; ~~BIOL 224.3/BMSC 224.3;~~ BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

Double Honours Residency Requirements

To meet the residency requirement for the Biochemistry major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BIOC 300.3; BIOC 310.3; BIOC 311.3; BIOC 430.3 or BIOC 436.3; BIOC 490.0; 9 credit units 400-Level BIOC; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 112.3; CHEM 115.3; CHEM 250.3; and BIOC 489.6 (if chosen) from the University of Saskatchewan. BIOC 489.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Anatomy & Cell Biology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of ACB 310.3; ACB 325.3; ACB 330.3; ACB 331.3; ACB 405.3; 6 credit units 300-Level or 400-Level ACB; BIOL 120.3; ~~or 3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and ACB 401.6 (if chosen) from the University of Saskatchewan. ACB 401.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ACB 405.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BIOC 300.3
- BIOC 310.3

- BIOC 311.3
- BIOC 430.3 or BIOC 436.3
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- CHEM 250.3

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

…

C7 Electives Requirement (6 ~~9~~ credit units)

Bachelor of Science Double Honours - Biochemistry and Biology - Majors 1 and 2

No changes to this program.

Bachelor of Science Double Honours - Biochemistry and Microbiology & Immunology - Majors 1 and 2

Double Honours Major Averages

The major average for Biochemistry will be calculated using the grades in all BIOC and all CHEM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; PHSI 208.6; and any courses taken from ACB 325.3, BINF 200.3, BINF 210.3, BIOL 316.3, BIOL 436.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3.

The major average for Microbiology & Immunology will be calculated using the grades in all MCIM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; PHSI 208.6; and any courses taken from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, and CHEM 242.3.

Double Honours Residency Requirements

To meet the residency requirement for the Biochemistry major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BIOC 300.3; BIOC 310.3; BIOC 311.3; BIOC 490.0; 12 credit units 400-Level BIOC; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 112.3; CHEM 115.3; CHEM 250.3; 3 credit units from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, CHEM 242.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3; and BIOC 489.6 (if chosen) from the University of Saskatchewan. BIOC 489.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Microbiology & Immunology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; CHEM 250.3; MCIM 321.3, MCIM 326.3, MICM 390.3, MICM 416.3, MICM 417.3, MCIM 423.3; MCIM 487.3; MCIM 490.3; 3 credit units from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, CHEM 242.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3; and MCIM 491.6 (if chosen) from the University of Saskatchewan. MCIM 491.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3

- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BIOC 300.3
- BIOC 310.3
- BIOC 311.3 or MCIM 391.3
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- CHEM 250.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3
- MCIM 490.0

…

C7 Electives Requirement (6~~-9~~ credit units)

Bachelor of Science Double Honours - Biochemistry and Physics - Majors 1 and 2

No changes to this program.

Rationale: See Anatomy & Cell Biology program above.

Bioinformatics

Minor program revisions
Bachelor of Science Honours and Four-year in Bioinformatics
Replace deleted introductory CMPT courses with new CMPT courses.

Major Average
The major average in Bioinformatics programs includes the grades earned in:

- BIOL 120.3, BIOL 121.3, CHEM 112.3, CHEM 115.3, ~~CMPT 111.3, CMPT 115.3,~~ CMPT 141.3, CMPT 145.3, MATH 110.3, and one of MATH 112.3 or MATH 116.3
- All courses listed in the Major Requirement C6.

Residency Requirements in the Major
To receive a degree in Bioinformatics, 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.

- BIOL 120.3, BIOL 121.3, CHEM 112.3, CHEM 115.3, ~~CMPT 111.3, CMPT 115.3,~~ CMPT 141.3, CMPT 145.3, MATH 110.3, and one of MATH 112.3 or MATH 116.3
- Minimum requirements in Major Requirement C6.

See Residency for additional details.

Bachelor of Science Four-year (B.Sc. Four-year) - Bioinformatics
Bachelor of Science Honours (B.Sc. Honours) - Bioinformatics

C1 Science Requirement (minimum 15 credit units)

- BIOL 120.3
- BIOL 121.3
- CHEM 112.3
- ~~CMPT 111.3~~ CMPT 141.3
- ~~CMPT 115.3~~ CMPT 145.3

…

Rationale: Reflects recent changes to introductory CMPT courses.

Environmental Earth Sciences

Minor program revisions – Addition of a Work Experience Option
Bachelor of Science in Environmental Earth Sciences
The Geography - Co-operative Education Option was previously available to students in the B.A. or B.Sc. Four-year and Honours programs in Geography, which have now been deleted. A proposals to transfer this option to be available for students in the Environment & Society program was approved last year. Approval of this proposal will also allow students in the B.Sc. in Environmental Earth Sciences to take advantage of this experiential learning program, which has been positively reviewed by students for many years now.
Fees for this program are unchanged from the existing structure for the Environment & Society program.

Environmental Earth Sciences - Co-operative Education Option

This five-year program is available to students in the B.Sc. Four-year and Honours programs. Entrance Requirements for Environmental Earth Sciences majors: Students must hold a Cumulative Weighted Average of 70% or higher (or have permission of the department) and must have completed no fewer than 54 and no more than 84 credit units of course work. To qualify for participation in the Co-operative Education Program, students must have successfully completed the following courses: GEOG 120.3 or GEOL 121.3, GEOG 222.3, GEOG 225.3 or GEOG 235.3; PHYS 115.3; STAT 245.3 or PLSC 214.3; MATH 110.3; 9 credit units of electives in the sciences.

Satisfactory completion of each work term is required prior to registration in the next work term. Each work term is graded on a Pass/Fail basis. Courses are taken in the following sequence: University courses (54 to 84 credit units), two years or more; Work placement GEOG 272.0, summer (May to August); Work placement GEOG 372.0, Term 1 (September to December); University courses (partial third year), Term 2 (January to April); Work placement GEOG 373.0, summer (May to August); University courses (remainder of third year), Term 1 (September to December); Work placement GEOG 472.0, Term 2 (January to April); Work placement GEOG 473.0 (if desired), summer (May to August); University courses (fourth year), Term 1 and 2 (September to April).

Geology

Minor program revisions
Bachelor of Science Honours and Four-year in Geology
Revise C6 requirements to provide students with an option of any two of GEOL 308, 408, or 487. Revise CMPT course options in C7 to account for proposed 100-level courses.

Bachelor of Science Four-year (B.Sc. Four-year) - Geology
Bachelor of Science Honours (B.Sc. Honours) - Geology

C6 Major Requirement (54 credit units)

Note: Students must take at least one of GEOL 324.3 or GEOL 325.3 to satisfy Group 2B of APEGA requirements.

- GEOL 206.3
- GEOL 224.3
- GEOL 226.3
- GEOL 229.3
- GEOL 245.3
- GEOL 247.3
- GEOL 258.3
- ~~GEOL 308.3~~
- GEOL 282.3 or GEOL 384.3
- ~~GEOL 408.3 or GEOL 487.3~~

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

- GEOL 308.3
- GEOL 408.3
- GEOL 487.3

Geosciences

Choose **at least 12 credit units** from the following:

- GEOL 282.3
- GEOL 308.3
- GEOL 324.3
- GEOL 325.3
- GEOL 330.3
- GEOL 334.3
- GEOL 335.3
- GEOL 343.3
- GEOL 358.3
- GEOL 384.3
- GEOL 405.3
- GEOL 406.3
- GEOL 408.3
- GEOL 411.3
- GEOL 413.3
- GEOL 429.3
- GEOL 433.3
- GEOL 444.3
- GEOL 446.3
- GEOL 447.3
- GEOL 448.3
- GEOL 450.3
- GEOL 451.3
- GEOL 463.3
- GEOL 465.3
- GEOL 481.3
- GEOL 483.3
- GEOL 485.6
- GEOL 487.3
- GEOL 490.3

- GEOL 492.6
- GEOL 498.3

Choose 12 credit units of senior level geoscience, which can be selected from the above list or from:

...

C7 Electives Requirement (24 credit units)

Required Cognate Courses

Note: Students should be aware that STAT 244 does not meet APEGS requirements.

Choose **9 credit units** from the following:

- BIOL 120.3
- BIOL 121.3
- Any senior BIOL course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of BIOL courses may be taken as part of the required cognate courses.
- BMSC 200.3
- Any senior CHEM course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of CHEM courses may be taken as part of the required cognate courses.
- CMPT 140.3 or CMPT 141.3 ~~CMPT 111.3~~ or CMPT 113.3 or CMPT 116.3
- CMPT 145.3 ~~CMPT 115.3~~ or CMPT 117.3
- Any senior CMPT course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of CMPT courses may be taken as part of the required cognate courses.
- Any senior MATH course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of MATH courses may be taken as part of the required cognate courses.
- Any senior PHYS course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of PHYS courses may be taken as part of the required cognate courses.
- STAT 241.3
- STAT 242.3 or STAT 245.3 or STAT 246.3 or PLSC 214.3
- Any senior STAT course as long as the prerequisites are met. If the student desires to satisfy APEGS requirements, only 6 credit units of STAT courses may be taken as part of the required cognate courses.

Open Electives (15 credit units)

…

Rationale: Previously GEOL 308, as well as one of GEOL 408 and GEOL 487 were required for the Four-year and Honours programs. The change to any two of GEOL 308, 408 and 487 will give students greater flexibility in completing the geology degree. All of these courses are field courses and so the program will not change in the total amount of field exposure. Previously, there was difficulty in accommodating all of the students in Geol. 308 as space was limited and some international students had difficulties in crossing the border with the United States (Geol. 308 is traditionally held in Montana). It is anticipated that most students will still take Geol. 308 but this program change creates an option for students who require a different route through the program.

The change to the C7 Cognate requirements reflects recent changes to introductory CMPT courses.

Geophysics

Minor program revisions
Bachelor of Science Honours and Four-year in Geophysics
Replace deleted introductory CMPT course with new CMPT course.

Bachelor of Science Four-year (B.Sc. Four-year) - Geophysics
Bachelor of Science Honours (B.Sc. Honours) - Geophysics

C1 Science Requirement (15 credit units)

Students intending to register in CMPT 116 must contact the geophysics program advisor for permission

- CHEM 112.3
- CMPT 141.3 ~~CMPT 111.3~~ or CMPT 116.3
- GEOL 121.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3

Rationale: Reflects recent changes to introductory CMPT courses.

Mathematics

Minor program revisions
Bachelor of Science Honours and Double Honours in Mathematics
Replace deleted introductory CMPT course with new CMPT course.

Bachelor of Science Honours (B.Sc. Honours) - with a Concentration in Pure Mathematics
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3
- CMPT 145.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

…

Bachelor of Science Double Honours - Mathematics and Statistics - Majors 1 and 2
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3
- CMPT 145.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

…

Rationale: Reflects recent changes to introductory CMPT courses.

Microbiology & Immunology

Minor program revisions
Bachelor of Science Honours, Double Honours, Four-year and Three-year in Microbiology & Immunology
Remove BIOL 224.3/BMSC 224.3 as an option to PHSI 208.6.

Bachelor of Science Four-year (B.Sc. Four-year) - Microbiology & Immunology
C6 Major Requirement (~~51~~ 54 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 391.3 or BIOC 311.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3

Choose **9 credit units** from the following:

- …

C7 Electives Requirement (27 ~~30~~ credit units)

Bachelor of Science Three-year (B.Sc. Three-year) - Microbiology & Immunology
C6 Major Requirement (~~33~~ 36 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- MCIM 326.3
- MCIM 390.3
- MCIM 391.3 or BIOC 311.3

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

- …

C7 Electives Requirement (18 ~~21~~ credit units)

Bachelor of Science Honours (B.Sc. Honours) - Microbiology & Immunology
C6 Major Requirement (~~60~~ 63 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 391.3 or BIOC 311.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3
- MCIM 490.0

Choose **18 credit units** from the following:

…

C7 Electives Requirement (18 ~~21~~ credit units)

Bachelor of Science - Double Honours - Microbiology & Immunology and Anatomy & Cell Biology - Majors 1 and 2

Double Honours Major Averages

The major average for Microbiology & Immunology will be calculated using the grades in all MCIM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

The major average for Anatomy & Cell Biology will be calculated using the grades in all ACB courses; BIOL 120.3; ~~BIOL 224.3/BMSC 224.3;~~ BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and PHSI 208.6.

Double Honours Residency Requirements

To meet the residency requirement for the Microbiology & Immunology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; CHEM 250.3; MCIM 321.3; MCIM 326.3; MCIM 390.3; MCIM 391.3; MCIM 416.3; MCIM 417.3; MCIM 423.3; MCIM 487.3; MCIM 490.3; and MCIM 491.6 (if chosen) from the University of Saskatchewan. MCIM 491.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Anatomy & Cell Biology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of ACB 310.3; ACB 325.3; ACB 330.3; ACB 331.3; ACB 405.3; 3 credit units from ACB 333.3, ACB 334.3, ACB 400.3, or ACB 406.3; BIOL 120.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BIOL 226.3; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; and ACB 401.6 (if chosen) from the University of Saskatchewan. ACB 401.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ACB 310.3
- ACB 325.3
- ACB 330.3
- ACB 331.3
- ACB 405.3
- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BIOL 226.3
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 391.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3
- MCIM 490.0
- CHEM 250.3

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

- …

C7 Electives Requirement (6~~-9~~ credit units)

Bachelor of Science Double Honours - Microbiology & Immunology and Biochemistry - Majors 1 and 2

Double Honours Major Averages

The major average for Microbiology & Immunology will be calculated using the grades in all MCIM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 250.3; PHSI 208.6; and any courses taken from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, and CHEM 242.3.

The major average for Biochemistry will be calculated using the grades in all BIOC and all CHEM courses; ~~BIOL 224.3/BMSC 224.3;~~ BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; PHSI 208.6; and any courses taken from ACB 325.3, BINF 200.3, BINF 210.3, BIOL 316.3, BIOL 436.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3.

Double Honours Residency Requirements

To meet the residency requirement for the Microbiology & Immunology major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; CHEM 250.3; MCIM 321.3, MCIM 326.3, MICM 390.3, MICM 416.3, MICM 417.3, MCIM 423.3; MCIM 487.3; MCIM 490.3; 3 credit units from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, CHEM 242.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3; and MCIM 491.6 (if chosen) from the University of Saskatchewan. MCIM 491.6 will count as part of residency requirement only if chosen.

To meet the residency requirement for the Biochemistry major students must complete at least two-thirds (to the nearest highest multiple of 3 credit units) of BIOC 300.3; BIOC 310.3; BIOC 311.3; BIOC 490.0; 12 credit units 400-Level BIOC; ~~3 credit units of BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6; BMSC 200.3; BMSC 210.3; BMSC 220.3; BMSC 230.3; BMSC 240.3; CHEM 112.3; CHEM 115.3; CHEM 250.3; 3 credit units from ACB 325.3, BINF 200.3, BINF 210.3, BIOC 405.3, BIOC 412.3, BIOC 430.3, BIOC 435.3, BIOC 436.3, BIOL 316.3, BIOL 436.3, CHEM 221.3, CHEM 242.3, MCIM 308.3, MCIM 309.3, and MCIM 425.3; and BIOC 489.6 (if chosen) from the University of Saskatchewan. BIOC 489.6 will count as part of residency requirement only if chosen.

C6 Major Requirement (~~72~~ 75 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- BIOC 300.3
- BIOC 310.3
- BIOC 311.3 or MCIM 391.3
- BIOC 490.0 (attendance in BIOC 490.0 is required in both term 1 and 2)
- CHEM 250.3
- MCIM 321.3
- MCIM 326.3
- MCIM 390.3
- MCIM 416.3
- MCIM 417.3
- MCIM 423.3
- MCIM 487.3
- MCIM 490.0

Choose **12 credit units** from the following:

- …

C7 Electives Requirement (6 ~~9~~ credit units)

Rationale: See Anatomy & Cell Biology program above.

Physiology & Pharmacology

Minor program revisions
Bachelor of Science Honours, Four-year and Three-year in Physiology & Pharmacology
Remove BIOL 224.3/BMSC 224.3 as an option to PHSI 208.6.

Bachelor of Science Honours (B.Sc. Honours) - Physiology & Pharmacology
C6 Major Requirement (~~54 –~~ 57 credit units)

PHPY 401.3 is a recommended, optional course.

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3

- BMSC 240.3
- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 432.6
- PHPY 490.0

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

- …

C7 Electives Requirement (24 ~~27~~ credit units)

Bachelor of Science Four-year (B.Sc. Four-year) - Physiology & Pharmacology
C6 Major Requirement (~~54~~ 57 credit units)

PHPY 401.3 is a recommended, optional course.

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 402.3
- PHPY 403.3
- PHPY 404.3
- PHPY 405.3
- PHPY 490.0

C7 Electives Requirement (24 ~~27~~ credit units)

Bachelor of Science Three-year (B.Sc. Three-year) - Physiology & Pharmacology
C6 Major Requirement (~~36~~ 39 credit units)

- ~~BIOL 224.3/BMSC 224.3 or~~ PHSI 208.6
- BMSC 200.3
- BMSC 210.3
- BMSC 220.3
- BMSC 230.3
- BMSC 240.3
- HSC 350.3
- PHPY 302.3
- PHPY 303.3

- PHPY 304.3
- PHPY 306.3
- PHPY 307.3

C7 Electives Requirement (15 ~~18~~ credit units)

Rationale: See Anatomy & Cell Biology program above.

Minor course revisions (effective 201705)
PHPY 301.3 Fundamental Neuroscience Intercellular Communication
PHPY 302.3 Human Physiology Transport Systems
PHPY 303.3 Human Physiology Reproduction Growth and Energy Homeostatis
Prerequisite change:
Old prerequisite(s): BMSC 224.3 or BIOL 224.3 or PHSI 208.6, or permission of the instructor.
New prerequisite(s): PHSI 208.6, or permission of the instructor.
Rationale: Recently given the choice between BIOL/BMSC 224.3 and PHSI 208.6, many BMSC students are now choosing to take PHSI 208. This is presumably because they want to retain the option to apply to Dentistry or Pharmacy and Nutrition, because of their interest in human physiology, or because they think that PHSI 208 will better prepare them for future studies in a health professional college. The fact that there are now two groups of students entering third year PHPY courses with different backgrounds forces instructors to repeat content covered in PHSI 208. The department has received complaints both from students who find one or more third year courses to be repeating content from PHSI 208 and from students who feel that taking only BIOL/BMSC 224 left them at a disadvantage. Having PHSI 208 become the sole physiology component in the BMSC common core will allow the relevant 300-level PHPY courses to be offered in a way that eliminates repetition and has all students start with a similar strong introduction to physiology.

PHPY 306.3 Physiology Laboratory
Prerequisite change:
Old prerequisite(s): BMSC 240.3; and BMSC 224.3 (or BIOL 224.3) or PHSI 208.6; or permission of the instructor.
New prerequisite(s): BMSC 240.3 and PHSI 208.6; or permission of the instructor.
Rationale: See above.

Statistics

Minor program revisions
Bachelor of Science Honours, Double Honours, and Four-year and Minor in Statistics
Remove restriction to only take one of MATH 226 or MATH 238 – Four-year program only. Replace deleted introductory CMPT course with new CMPT course.
Revise Minor in Statistics to account for changes made in Economics following the deletion of ECON 204.6, and to include MATH 276.3 as an option to MATH 225.3 and ECON 306.3.

Bachelor of Science Four-year (B.Sc. Four-year) - Statistics
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3 or CMPT 116.3
- CMPT 145.3 or CMPT 117.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

...

C6 Major Requirement (36 credit units)

…

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

Students contemplating Honours should take MATH 238.3 ~~rather than MATH 226.3~~

- 300-Level or 400-Level MATH Courses
- 300-Level or 400-Level STAT Courses
- MATH 211.3
- MATH 226.3 ~~or MATH 238.3~~
- MATH 238.3
- MATH 258.3
- MATH 277.3

Bachelor of Science Honours (B.Sc. Honours) - Statistics
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3 or CMPT 116.3
- CMPT 145.3 or CMPT 117.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

...

Bachelor of Science Double Honours - Statistics - Specialization 1
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3 or CMPT 116.3
- CMPT 145.3 or CMPT 117.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

...

Double Honours - Statistics - Major 2
Requirements (42 credit units)

- …

Recommended Electives

- ~~CMPT 111.3~~

- ~~CMPT 115.3~~
- CMPT 141.3 or CMPT 116.3
- CMPT 145.3 or CMPT 117.3

If you require further assistance, please contact the Arts & Science Undergraduate Student Office.

Bachelor of Science Double Honours - Statistics and Mathematics - Majors 1 and 2
C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 141.3 or CMPT 116.3
- CMPT 145.3 or CMPT 117.3

Choose 9 credit units to be selected from the following areas, such that no more than 6 credit units are chosen from any one area:

…

Statistics - Minor

The Minor in Statistics may be completed in conjunction with any degree in another discipline in the College of Arts & Science.

The Minor average in Statistics will be calculated using the grades earned in all courses eligible to be included in the Minor program requirements. Students must complete at least two-thirds of the program requirements (rounded to the nearest highest multiple of 3 credit units) using courses offered by the University of Saskatchewan to meet the Residency requirement.

Requirements (18 credit units)

- STAT 103.3 or STAT 241.3
- a course in linear algebra (such as MATH 264.3 or MATH 266.3)
- STAT 344.3
- STAT 345.3
- STAT 348.3

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

- STAT 242.3
- STAT 245.3
- STAT 246.3
- ~~ECON 204.6~~
- GE 210.3 or PLSC 214.3
- STAT 244.3 or SOC 225.3; and SOC 325.3
- PSY 233.3 and PSY 234.3
- COMM 104.3 and COMM 207.3

For students majoring in Business Economics or Economics:

Students majoring in Economics or Business Economics may follow the requirements for the Minor in Statistics as listed above, or may follow the alternate requirements below

- MATH 110.3
- MATH 116.3
- MATH 264.3 or MATH 266.3 (preferred) or ECON 305.3
- MATH 225.3 or MATH 276.3 (MATH courses preferred) or ECON 306.3
- ~~ECON 204.6~~
- ECON 304.3
- ECON 404.6
- STAT 241.3
- STAT 245.3
- STAT 345.3
- STAT 348.3

Rationale: The course content of MATH 238.3 was changed in 2014-15 so that there is no longer substantial overlap between MATH 238.3 and MATH 226.3. The proposed change is consistent with the changes to MATH 238.
We are changing the C1 Science Requirement to reflect changes in the first year CMPT courses. ECON 204.6 will no longer be offered, and has been replaced in the Business Economics and Economics programs by STAT 245.3 and ECON 304.3.

DIVISION OF SOCIAL SCIENCES

Economics

Minor program revisions
Bachelor of Arts Honours, Double Honours, Four-year, and Three-year, Minor, and Post-Degree Specialization Certificate in Economics
Add ECON 274 as an alternative to ECON 214. Add MATH courses as options to ECON courses where appropriate.

Bachelor of Arts Four-year (B.A. Four-year) - Economics
B6 Major Requirement (30 credit units)

- ECON 211.3
- ECON 214.3 or ECON 274.3
- ECON 304.3
- STAT 245.3

…

Bachelor of Arts Three-year (B.A. Three-year) - Economics
B6 Major Requirement (24 credit units)

- ECON 211.3
- ECON 214.3 or ECON 274.3
- ECON 304.3
- STAT 245.3

…

Bachelor of Arts Honours (B.A. Honours) - Economics
B6 Major Requirement (42 credit units)

At least 12 credit units must be at the 400-level.

- ECON 211.3
- ECON 214.3 or ECON 274.3
- ECON 304.3
- ECON 305.3 or MATH 264.3 or MATH 266.3
- ECON 306.3 or MATH 225.3 or MATH 276.3
- ECON 389.3
- ECON 404.6
- STAT 245.3

…

Bachelor of Arts Double Honours - Economics - Major 1
B6 Major Requirement (30 credit units)

- ECON 211.3
- ECON 214.3 or ECON 274.3
- ECON 304.3
- ECON 305.3 or MATH 264.3 or MATH 266.3
- ECON 306.3 or MATH 225.3 or MATH 276.3
- ECON 404.6
- STAT 245.3

…

Double Honours - Economics - Major 2
Requirements (36 credit units)

- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 214.3 or ECON 274.3
- ECON 304.3
- ECON 305.3 or MATH 264.3 or MATH 266.3
- ECON 306.3 or MATH 225.3 or MATH 276.3
- ECON 404.6
- STAT 245.3

…

Economics - Post-Degree Specialization Certificate

The program requires completion of at least 30 credit units from the College of Arts & Science including completion of the department's discipline requirements, promotion and graduation standards, for a Four-year major in Economics. The program requires completion of ECON 111, 114, 211, 214 or 274, 304, 12 credit units in ECON at the 300- or 400-level, 6 additional credit units in ECON, and STAT 245. A junior course in calculus is prerequisite for ~~all~~ most 300-level ECON courses.

Economics - Minor
Requirements (21 credit units)

- ECON 111.3
- ECON 114.3

- 15 additional credit units in economics

It is recommended that students also take ECON 211.3, and ECON 214.3 or ECON 274.3. Students considering further studies in economics should include these courses in their program.

Rationale: The department has noted that many of the students in economics programs have already taken a calculus course by the time they take intermediate macro- or micro-economics. By introducing ECON 274, these students are provided the option to apply that earlier learning in their study of economics.
The use of MATH courses in Economics programs was previously indicated in the Course and Program Catalogue, in the introductory information for the Economics program. This change will help to make this option easier for students to understand. This revision also adds the option of MATH 276, which was previously only implicitly included as it is equivalent to MATH 225.

New course(s):
ECON 274.3 Intermediate Macroeconomic Theory
1/2 (3L) Presents the student with a formal analysis of national accounting, the consumption function, investment, public expenditure, taxes, budgets, money and interest, general equilibrium, the open economy, aggregate supply and demand, public policy, inflation, and growth theory.
Prerequisite(s): ECON 114, ECON 211, and one of MATH 104, 110, 121, 123, or 125.
Note: Students may only take one of ECON 214 and ECON 274 for credit.
Instructors: M. Chaban, C. Echevarria, A. Pollak, E. Shao
Rationale: This course is proposed as an alternative to ECON 214, Intermediate Macroeconomics, for students with knowledge of calculus. A significant share of students currently taking ECON 214 have already taken a math course in first year, and they will benefit from a more formal and mathematical approach to macroeconomic theory.

Minor course revisions
ECON 214.3 Intermediate Macroeconomic Theory
Prerequisite change:
Old prerequisite(s): ECON 114, and one of ECON 211 or 213.New prerequisite(s): In the final year of an Honours Program; or a cumulative percentage average of at least 70% in 24 credit units in computer science.
New prerequisite(s): ECON 114 and ECON 211.
New Note: Students may only take one of ECON 214 and ECON 274 for credit.
New title: Intermediate Macroeconomics
New course description: Presents the student with a formal analysis of national accounting, the consumption function, investment, public expenditure, taxes, budgets, money and interest, general equilibrium, the open economy, aggregate supply and demand, public policy, inflation, and growth theory.
New restriction: ECON 214.3 and ECON 274.3 are mutually exclusive.
Rationale:

ECON 404.6 Econometrics
Prerequisite change:
Old prerequisite(s): ECON 204 (or equivalent courses in statistics); ECON 214; one of MATH 104 (formerly MATH 101), MATH 110, MATH 121, MATH 123, MATH 125; and one of ECON 305, MATH 264, or MATH 266.
New prerequisite(s): ECON 304; ECON 214 or ECON 274; one of MATH 104, MATH 110, MATH 121, MATH 123, MATH 125; and one of ECON 305, MATH 264 or MATH 266.

Rationale: See ECON 307 above. ECON 304 has been approved to replace ECON 204.

Indigenous Studies

New course
INDG 361.3 Indigenous Community Development in the 21st Century
1/2 (3L) Course examines obstacles to and strategies for community development. Students will be encouraged to explore possible models that First Nations, Metis and other economically marginalized communities can employ. Beginning with a theoretical understanding of *community economic development* this course will provide students will a sound grounding on how and why underdevelopment exists. This course will look at community development theories and practices that focus on local and sustainable principles as well as ones that reflect Indigenous values of holism and community well-being.
Prerequisite(s): INDG 265.3
Instructor(s): Priscilla Settee, Robert Innes
Rationale: The course builds on the research areas of department faculty and adds to the block of courses within the department's new Development concentration.

Northern Studies

Minor program revisions
Bachelor of Arts Honours, Four-year, and Three-year, and Minor in Northern Studies
Replace BIOL 312.3 (Life in the North – deleted) with NRTH 312.3 (Resource Geography of the Circumpolar North).
Bachelor of Arts Four-year (B.A. Four-year) - Northern Studies
B6 Major Requirement (36 credit units)

- ~~BIOL 312.3~~
- GEOG 351.3
- NRTH 101.3
- NRTH 312.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3
- NRTH 490.0

Students must also complete ONE of the two following streams:

...

Bachelor of Arts Three-year (B.A. Three-year) - Northern Studies
B6 Major Requirement (36 credit units)

- ~~BIOL 312.3~~
- GEOG 351.3
- NRTH 101.3
- NRTH 312.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3

Students must also complete ONE of the two following streams:

...

Bachelor of Arts Honours (B.A. Honours) - Northern Studies
B6 Major Requirement (42 credit units)

- ~~BIOL 312.3~~
- GEOG 351.3
- NRTH 101.3
- NRTH 312.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3
- NRTH 480.6
- NRTH 490.0

Students must also complete ONE of the two following streams:

...

Northern Studies - Minor
Requirements (21 credit units)

- ~~BIOL 312.3~~
- GEOG 351.3
- NRTH 101.3
- NRTH 312.3
- NRTH 321.3
- NRTH 322.3
- NRTH 331.3
- NRTH 332.3

Rationale: The deletion of BIOL 312.3 Life in the North created a gap in the core curriculum of the B.A. programs in Northern Studies. NRTH 312.3 Resource Geography of the Circumpolar North was developed to fill that gap.

Psychology

Minor program revisions
Bachelor of Science Honours, Double Honours and Four-year in Psychology
Replace deleted introductory CMPT course with new CMPT courses.

Bachelor of Science Four-year (B.Sc. Four-year) - Psychology
Bachelor of Science Honours (B.Sc. Honours) - Psychology
Bachelor of Science Double Honours - Psychology - Major 1

C1 Science Requirement (minimum 15 credit units)

- BIOL 120.3
- BIOL 121.3

- CHEM 112.3
- ~~CMPT 111.3~~
- CMPT 140.3 or CMPT 141.3
- PHYS 115.3

Rationale: Reflects recent changes to introductory CMPT courses.

Course deletion
PSY 100.3 Introductory Psychology for Health Science Students
PSY 100 is no longer offered. Students entering Health Science programs are now able to take either or both of PSY 120.3 and PSY 121.3.

Items for Information
The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge and are now submitted to the University Course Challenge for information.

DIVISION OF HUMANITIES AND FINE ARTS

Digital Culture & New Media

Minor program revisions
Minor in Digital Culture & New Media
Revisions to choice of restricted electives.

Digital Culture & New Media - Minor

Requirements (24 credit units)

- INCC 210.3
- INCC 401.3

Choose 18 credit units from at least TWO of the following four disciplines (not more than 6 credit units from the student's major):

Art

Please note that not all of these are offered every year

- ART 136.3
- ART 235.3
- ART 236.3
- ART 237.3
- ART 338.3
- ART 339.3
- ART 438.3
- ART 439.3
- ARTH 250.3
- ARTH 251.3

Computer Science

- ~~CMPT 105.3~~
- CMPT 106.3
- CMPT 140.3
- CMPT 141.3
- CMPT 145.3
- CMPT 281.3

English

- ENG 204.6
- ENG 307.3
- ENG 404.3 (Only when the focus is on digital editing; permission of the Program Coordinator is required.)
- ENG 406.3 (Only when the focus is on digital editing; permission of the Program Coordinator is required.)

History

- HIST 396.3

Interdisciplinary Study of Culture & Creativity (INCC)

Selected INCC Special Topics courses may be used in this requirement. Consult the Program Coordinator for information on specific courses.

- INCC 310.3
- INCC 311.3

Philosophy

- PHIL 236.3

~~Sociology~~

- ~~SOC 244.3~~
- ~~SOC 246.3~~
- ~~SOC 260.3~~
- ~~SOC 360.3~~

Optional Complementary Courses

These courses may not be used to satisfy the requirements of the minor. They are identified here only as they may be of interest to students who choose the program.

- DRAM 340.3
- DRAM 440.3
- ENG 288.3
- WGST 355.3

Rationale: These changes reflect new courses relevant to the field, remove CMPT 105 (deleted), and remove courses in Sociology which were formerly taught in such a way that they addressed subject matter of relevance to understanding the social and cultural aspects of digital communications, but are taught now with a somewhat different focus.

English

Minor program revisions
Bachelor of Arts Honours, Double Honours, Four-year and Three-year in English
Remove ENG 314 from Category 2 in all English programs.

Category 1: Anglo-Saxon & Medieval

- ENG 301.3
- ENG 310.3
- ENG 311.3
- ENG 312.3
- ENG 313.3
- ENG 314.3 ~~(can be used to fulfill either Category 1 or 2 requirements, but not both)~~
- ENG 316.3
- ENG 402.3
- ENG 420.3

Category 2: Renaissance

- ENG 224.3
- ENG 225.3
- ~~ENG 314.3 (can be used to fulfill either Category 1 or 2 requirements, but not both)~~
- ENG 319.3
- ENG 322.3
- ENG 324.3
- ENG 326.3
- ENG 404.3
- ENG 406.3

Rationale: All English degree programs currently require students to choose courses from among three to five areas of specialization, including Category 1, Anglo-Saxon and Medieval, and Category 2, Renaissance. At the present time, ENG 314 Early British Drama can fulfill a requirement in either Category 1 or Category 2, but not both. However, the course has only ever been taught as an Category 1 course, and the department has discovered that allowing students to count it as an Category 2 course is misleading and detracts from their legitimate study in Category 2.

Bachelor of Arts Three-year in English

Bachelor of Arts Three-year (B.A. Three-year) - English

A6 Major Requirement (24 credit units)

Choose **6 credit units** from among ~~ONE of~~ categories 1, 2, or 3.

Category 1: Anglo-Saxon & Medieval

Category 2: Renaissance
Category 3: 18th/19th Century

No additional changes to lists (see above program revision)

…

Rationale: This proposed change is designed to reflect the fact that we now offer mostly 3-credit-unit upper-year courses; the previous requirements were based on 6-credit-unit courses. This change will give students more flexibility and choice in fulfilling their program requirements, since they will now be able to meet those requirements by taking courses from several categories of historical English literature rather than just one.

DIVISION OF SCIENCE

Computer Science

Minor course revisions
CMPT 405.3 Project Design and Implementation
Prerequisite change:
Old prerequisite(s): In the final year of an Honours Program; or in the final year of the Interactive Systems Design program; or a cumulative percentage average of at least 70% in 24 credit units in computer science.
New prerequisite(s): In the final year of an Honours Program; or a cumulative percentage average of at least 70% in 24 credit units in computer science.
Rationale: This change is related to the proposal for a new course, CMPT 406, designed for the Interactive Systems Design program. The new course, CMPT 406, is designed for ISD students to stand as the default integrative interdisciplinary "capstone" course. For ISD students, CMPT 405 is no longer required, and therefore the prerequisites no longer need to reflect the ISD program specifically. ISD students who have a sufficiently high CWA (70%) may still take CMPT 405 as an alternative to CMPT 406.

Geology

Minor course revisions
GEOL 334.3 Gravity Magnetics Electromagnetic and Radiation Methods
GEOL 335.3 Seismology and Ground Penetrating Radar Methods
Prerequisite change:
Old prerequisite(s): CMPT 116 or 111; MATH 223 or 225 or 276; MATH 224 or 226 or 238; (PHYS 115 and PHYS 117) or (PHYS 115 and 125) or PHYS 155.
New prerequisite(s): CMPT 116 or 111 or 141; MATH 223 or 225 or 276; MATH 224 or 226 or 238; (PHYS 115 and PHYS 117) or (PHYS 115 and 125) or PHYS 155.
Rationale: Reflect recent changes to introductory CMPT courses.

GEOL 408.3 Geological Mapping II
Prerequisite change:
Old prerequisite(s): GEOL 308 and one of GEOL 324, 325 or 358
New prerequisite(s): GEOL 226, 258, 247, and 229
New title: Field school: Crystalline rocks

New course description: A field course where deformed and metamorphosed volcanic, sedimentary and intrusive igneous rocks will be mapped and interpreted. Fieldwork results will be presented as a map and in a report.
Rationale: This change will make it possible for students to take this field school after they have completed their second year of study. In conjunction with proposed changes to the Geology Program, this will give students greater flexibility in completing degrees in Geology.

Mathematics

Minor program revisions
Bachelor of Science Four-year and Three-year in Mathematics
Remove restriction to only take one of MATH 226 or MATH 238.

Bachelor of Science Four-year (B.Sc. Four-year) - Mathematics
C6 Major Requirement (36 credit units)

Students contemplating Honours should take MATH 276 rather than 225

- MATH 225.3 or MATH 276.3
- MATH 266.3
- STAT 241.3

Choose **27 credit units** from the following:

Choose at least 12 credit units that are at the 300-level or higher, such that, in total, at least 24 of the 36 senior credit units required for the major are designated MATH. Courses in mathematics and statistics at the 200-level other than those listed in this section are not acceptable as part of a major in mathematics.

Students contemplating Honours should take MATH 211 and MATH 238 ~~rather than 226~~.

- 300-Level or 400-Level MATH Courses
- 300-Level or 400-Level STAT Courses
- MATH 211.3
- MATH 226.3 ~~or MATH 238.3~~
- MATH 238.3
- MATH 258.3
- MATH 277.3
- STAT 242.3

Bachelor of Science Three-year (B.Sc. Three-year) - Mathematics
C6 Major Requirement (24 credit units)

Students contemplating Honours should take MATH 276 rather than 225

- MATH 225.3 or MATH 276.3
- MATH 266.3
- STAT 241.3

Choose 15 credit units from the following, such that at least 6 credit units are at the 300-level or higher and, in total, at least 15 of the 24 senior credit units required for the major are designated MATH. Courses in mathematics and statistics at the 200-level other than those listed in this section are not acceptable as part of a major in mathematics.

Students contemplating Honours should take MATH 211 and MATH 238 ~~rather than 226~~.

- 300-Level or 400-Level MATH Courses
- 300-Level or 400-Level STAT Courses
- MATH 211.3
- MATH 226.3 ~~or MATH 238.3~~
- MATH 238.3
- MATH 258.3
- MATH 277.3
- STAT 242.3

Rationale: The course content of MATH 238.3 was changed in 2014-15 so that there is no longer substantial overlap between MATH 238.3 and MATH 226.3. The proposed change is consistent with the changes to MATH 238.

DIVISION OF SOCIAL SCIENCES

Economics

Minor course revisions
ECON 307.3 Economic Forecasting
ECON 356.3 International Monetary Economics
ECON 374.3 Topics in Intermediate Macroeconomic Theory
ECON 380.3 History of Economic Thought after 1870
ECON 411.3 Monetary Theory
ECON 414.3 Economic Growth
ECON 470.3 Economics of Behaviour and Behavioural Economics
Prerequisite change:
Old prerequisite(s): ECON 214 and one of MATH 104 (formerly 101), 110, 121, 123, 125.
New prerequisite(s): ECON 214 or ECON 274; and one of MATH 104, 110, 121, 123, 125.

ECON 314.3 Development Economics
Prerequisite change:
Old prerequisite(s): ECON 111 and ECON 214
New prerequisite(s): ECON 111; and ECON 214 or ECON 274.3.

ECON 389.3 Research Project in Economics
Prerequisite change:
Old prerequisite(s): ECON 111, 214, a junior course in calculus, and permission of the department.
New prerequisite(s): ECON 111; ECON 214 or ECON 274; one of MATH 104, 110, 121, 123, 125; and permission of the department.

Rationale: ECON 274 being introduced as an alternative to ECON 214.

Geomatics

Minor program revisions
Minor in Geomatics
Rationale:Revisions to account for recently approved and proposed new courses and deletions in ASTR, CMPT, and PHYS.

Geomatics - Minor

Requirements (21 credit units)

- GEOG 222.3

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

- ASTR 102.3
- ASTR 104.3
- ASTR 113.3
- BIOL 107.6
- BIOL 120.3
- BIOL 121.3
- CHEM 112.3
- CHEM 115.3
- CMPT 100.3
- CMPT 102.3
- ~~CMPT 105.3~~
- CMPT 106.3
- ~~CMPT 111.3~~
- ~~CMPT 115.3~~
- CMPT 120.3
- CMPT 140.3
- CMPT 141.3
- CMPT 145.3
- GEOG 120.3
- GEOG 125.3
- GEOG 130.3
- GEOL 108.3
- GEOL 109.3
- GEOL 121.3
- GEOL 122.3
- MATH 104.3
- MATH 110.3
- MATH 112.3 or MATH 116.3
- MATH 121.3
- MATH 125.3
- MATH 128.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3
- ~~PHYS 127.3 or PHYS 128.3~~
- STAT 103.3

Any senior level science level course provided that the prerequisite is met.

Choose **12 credit units** from the following:

- …

Psychology

Minor course revisions

PSY 343.3 Laboratory in Behavioural Neuroscience
PSY 347.3 Advanced Human Neuropsychology
Prerequisite change:
Old prerequisite(s): 12 credit units of 200-level psychology, including PSY 233 and 235 and one of PSY 242 or 246.
New prerequisite(s): 12 credit units of 200-level psychology, including PSY 233 and 235 and one of PSY 242, 243 or 246.
Rationale: PSY 243.3 was omitted as a listed prerequisite for this course, but is an appropriate option.

PSY 472.6 BA Honours Thesis
Prerequisite change:
Old prerequisite(s): At least one 3 credit unit 300-level PSY A and one 3 credit unit 300-level PSY B course.
New prerequisite(s): Students must be enrolled in the Honours program or have written permission of the department; and at least one 3 credit unit 300-level PSY A and one 3 credit unit 300-level PSY B course.
Delete restriction: Enrolment in honours program or written permission of the department.
Rationale: These changes align the course prerequisites with those for PSY 473.6 – BSc Honours Thesis, which will help to improve clarity of processes for students.

College of Dentistry – University Course Challenge Submission

The following curricular changes have been approved by the college and are now being posted to University Course Challenge for information:

Course Label Change:

~~**DENT 215.3**~~ **DENT 314.3: Oral Microbiology Immunology and Physiology**

> Considers those areas of microbiology, immunology and physiology with special significance to dentistry. Major topics are oral microflora and ecology; molecular biology of microbial adherence; formation and metabolism of dental plaque; microbiology of dental caries and periodontal disease; immunology of dental caries and periodontal disease; physiology of salivary glands and saliva; classification and physiology of neuroreceptors and their integration/modulation by the central nervous system; and the physiology of pain, taste, swallowing and mastication.

Rationale: DENT 314.3 was relabeled DENT 215.3, December, 2014 University Course Challenge; however, the college has since found that the content was better represented as a 300-level course. DENT 215 has never been offered and, because of this, the college is proposing to leave the course labeled DENT 314.3 as it had been. Per the University Nomenclature Report, closed courses must not be reused for 10 years after deletion for the purpose of avoiding confusion in the Catalogue and on transcripts. In this case, re-using the number will reduce confusion for students, staff, and on records.

The resulting program changes will occur as follows:

Doctor of Dental Medicine (D.M.D.) (207 credit units)

Year 1

~~47~~44 credit units

- ACB 334.3
- DENT 208.3
- DENT 210.2
- DENT 214.2
- ~~DENT 215.3~~
- DENT 220.6
- DENT 221.2
- DENT 225.2
- DENT 226.3
- DENT 288.3
- DENT 291.18

Year 2

~~54~~57 credit units

- DENT 301.2
- DENT 306.6
- DENT 309.2
- DENT 310.2
- DENT 314.3
- DENT 317.3
- DENT 319.4
- DENT 320.5
- DENT 321.2
- DENT 324.3
- DENT 330.5
- DENT 340.4
- DENT 348.3
- DENT 353.2
- DENT 360.5
- DENT 392.6

Year 3

57 credit units

- DENT 401.3
- DENT 411.1
- DENT 417.4
- DENT 419.5
- DENT 420.5
- DENT 424.4
- DENT 430.6
- DENT 440.5
- DENT 448.3
- DENT 455.2
- DENT 460.5
- DENT 463.3
- DENT 466.2
- DENT 475.4
- DENT 480.2
- DENT 486.3

Year 4

49 credit units

- DENT 501.2
- DENT 517.4
- DENT 519.5
- DENT 520.3
- DENT 524.4

- DENT 530.5
- DENT 540.5
- DENT 542.2
- DENT 548.3
- DENT 560.3

College of Education, December 2015 University Course Challenge Proposal:

Aurora College Teacher Education Program

The Aurora College Teacher Education Program is a partnership between the College of Education, University of Saskatchewan and Aurora College. This program follows the Indian Teacher Education Program (ITEP) which consists of the same requirements as the Bachelor of Education Program (2012). The Indian Teacher Education Program has transitioned into the B.Ed. Program (2012) and, therefore, the Aurora College Teacher Education Program is also in transition to the new B.Ed. program (2012). As such, these changes are now being posted to University Course Challenge for approval.

Please Note: The previous agreement expired in June 2015 and the current agreement will be signed before Christmas. We petition for this information to be included in the 2016-2017 Course Catalogue.

Aurora College Teacher Education Program (formerly NWTEP)

This program is a partnership between the College of Education and Aurora College. Students enrol in a three-year program leading to a teaching certificate or a four-year B.Ed. program at Fort Smith, Thebaca Campus or the University of Saskatchewan.

Inquiries should be directed to: The Chair, Aurora College Teacher Education, Box 600, Fort Smith, NT X0E 0P0, Tel: 867-872-7017, Fax: 867-872-5143.

Program Requirements

Aurora College Teacher Education Program ~~(126 credit units)~~

University of Saskatchewan requirements (~~66~~ 120 credit units)

The following University of Saskatchewan requirements must be completed:

External Component (60 Credit Units)

Choose 18 credit units from the following:

- Teaching Area I courses
- INDG 261.3
- INDG 262.3
- INDG 370.6

Choose 12 credit units from the following:

- Teaching Area II courses
- ENG 113.3
- ENG 114.3
- INDG 270.6 or 6 credit units of 200-400 level ENG

Academic Electives (~~15~~ 18 credit units):

18 credit units of open electives (must be compiled by 3 or 6 credit unit courses)

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

- GEOG 120.3
- GEOG 125.3
- GEOG 233.3
- GEOG 235.3
- GEOG 271.3
- GEOG 280.3
- GEOG 322.3
- GEOG 323.3
- GEOG 325.3
- GEOG 328.3
- GEOG 335.3
- GEOG 351.3
- GEOG 423.3
- GEOG 490.3
- GEOL 206.3
- GEOL 226.3
- GEOL 247.3
- GEOL 330.3
- GEOL 384.3
- GEOL 413.3
- GEOL 429.3
- GEOL 450.3
- GEOL 451.3
- EVSC 210.3
- EVSC 220.3
- EVSC 380.3
- EVSC 420.3
- EVSC 430.3
- SLSC 273.3
- 100-Level, 200-Level, 300-Level or 400-Level ACB Courses
- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- 300-Level or 400-Level BIOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level BIOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level BMSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHEM Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMPT Courses
- 200-Level, 300-Level or 400-Level HSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level MCIM Courses
- 100-Level, 200-Level, 300-Level or 400-Level PHYS Courses
- 200-Level, 300-Level or 400-Level PLSC Courses

Note: Not PLSC 214

~~**Health Elective**~~

- ~~HLTH 100.3~~

Choose 3 Fine Arts Elective credit units from the following:

- Any from Elementary Teaching Area 1 - Arts Education
- 100-Level, 200-Level, 300-Level or 400-Level MUS Courses

See Bachelor of Education program for full listing of Elementary teaching areas.

Choose 3 Kinesiology credit units from the following:

- KIN 121.3
- KIN 146.3
- KIN 298.3

Academic Mathematics (3 credit units):

- ECUR 311.3

Education Component (60 Credit Units)

Choose 3 Education Elective credit units of the following:

- 100-Level, 200-Level, 300-Level or 400 Level ETAD Course

Required Education credit units:

- EART 303.3
- EADM 303.3
- EFDT 301.3
- EPSE 302.3
- EPSE 390.3
- EFDT 313.3
- EDST 321.3
- EDST 322.3
- ECUR 309.3
- ECUR 310.3
- ~~ECUR 311.3~~
- ECUR 316.3
- ECUR 322.3
- ECUR 382.3
- EADM 411.3, ECUUR 411.3, EFDT 411.3, or EPSE 411.3
- **EXPR 422.15**

~~**University of Regina Program Requirements (60 credit units)**~~

~~The remaining 60 credit units are to be completed with University of Regina courses. For further information, please contact 1-867-872-7017.~~ **(Previously included erroneously.)**

Indian Teacher Education Program (ITEP)

Changes to the Bachelor of Education program were approved as part of the Bachelor of Education (2012) program and are now being reflected in the Indian Teacher Education Program (ITEP). These program changes are now being posted to University Course Challenge for approval:

Indian Teacher Education Program (ITEP)

This four-year Concurrent program is designed for First Nations/Aboriginal students. For details on program requirements and admission procedures contact: Indian Teacher Education Program, College of Education, University of Saskatchewan, 28 Campus Drive, Saskatoon SK S7N 0X1, Tel: 306-966-7686, Fax: 306-966-7630.

Program Requirements

Requirements Elementary/Middle Years Program:

Year 1 – 27 credit units

- ENG 110.6 or choose two of ENG 111.3, ENG 112.3, ENG 113.3, or ENG 114.3

Choose 3 credit units from the following:

Arts Education courses from Elementary Teaching Areas 1 or 2

Choose 3 credit units from the following:

Science courses from Elementary Teaching Areas 1 or 2

Choose 6 credit units from the following:

Open Electives 100-400 level (must be compiled using 3 or 6 credit unit courses)

Choose 3 Indigenous (junior level) credit units from the following:

- COMM 347.3
- SOC 203.3
- SOC 219.3
- SOC 320.3
- SOC 341.3
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses

Choose 3 credit units from the following:

- INDG 271.3
- INDG 280.6
- INDG 281.3

- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses

Choose 3 credit units from the following:

- EFDT 301.3

Year 2 – 30 credit units

- EPSE 302.3
- EFDT 313.3
- EDST 321.3

Choose 3 credit units from the following:

- **ECUR 311.3**
- 100-Level, 200-Level, 300-Level or 400-Level MATH Courses
- 100-Level, 200-Level, 300-Level or 400-Level STAT Courses

Choose 3 credit units from the following:

KIN 121.3 or KIN 122.3 or KIN 146.3

Choose 6 credit units from the following:

Teaching Area 1

Choose 6 credit units from the following:

Teaching Area 2

Choose 3 Methods credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD Courses

Year 3 – 33 credit units

- EADM 303.3
- ECUR 309.3
- ECUR 310.3

- EDST 322.3

Choose 12 credit units from the following:

Teaching Area 1

Choose 6 credit units from the following:

Teaching Area 2

Choose 3 credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD Courses

Year 4 – 30 credit units

- one of EADM 411.3, or ECUR 411.3, or EFDT 411.3, or EPSE 411.3
- EPSE 390.3
- ECUR 316.3
- ECUR 322.3
- ECUR 382.3
- EXPR 422.15

Choose 3 ~~9~~ credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD Courses

Requirements Secondary Program:

Year 1 – 27 credit units

- ENG 110.6 or choose two of ENG 111.3, ENG 112.3, ENG 113.3, or ENG 114.3
- INDG 107.3

Choose 6 junior level credit units from the following:

Teaching Area 1 (100-level)

Choose 6 junior level credit units from the following:

Teaching Area 2 (100-level)

Choose 3 credit units from the following:

Open Electives 100-400 level (must be compiled using 3 or 6 credit unit courses)

Choose 3 credit units from the following:

- EDST 301.3

Year 2 – 30 credit units

- EPSE 302.3
- EADM 303.3
- EFDT 315.3
- EDST 321.3

Choose 6 senior level credit units from the following:

Teaching Area 1 (200-Level, 300-Level or 400-Level)

Choose 6 senior level credit units from the following:

Teaching Area 2 (200-Level, 300-Level or 400-Level)

Choose 6 credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD Courses

Year 3 – ~~33~~ 36 credit units

- ECUR 320.3
- ECUR 325.3
- EDST 322.3

Choose 12 credit units from the following:

Teaching Area 1

Choose 3 credit units from the following:

Teaching Area 2

Choose 3 credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD Courses

Choose ~~6~~ 9 credit units from the following:

Open Elective 100-400 level (Open Electives must be compiled using 6 or 3 credit unit courses)

Year 4 – ~~30~~ 27 credit units

- one of EADM 411.3, or ECUR 411.3, or EFDT 411.3, or EPSE 411.3
- EPSE 390.3
- EXPR 422.15

Choose ~~9~~ 6 credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level EADM Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECUR Courses
- 100-Level, 200-Level, 300-Level or 400-Level EDUC Courses
- 100-Level, 200-Level, 300-Level or 400-Level EFDT Courses
- 100-Level, 200-Level, 300-Level or 400-Level EMUS Courses
- 100-Level, 200-Level, 300-Level or 400-Level EPSE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ETAD

Northern Teacher Education Program (NORTEP)

The Northern Teacher Education Program (NORTEP) is offered jointly by the University of Saskatchewan and the University of Regina. For the courses NORTEP students take through the University of Saskatchewan, U of S course numbers are used. New numbers have been given to some U of S courses based on approved changes in the Bachelor of Education Program (2012). As such, the published program information must reflect the updates. Since we do not approve U of R courses, which compile part of the NORTEP program, the new equivalent courses for only those courses provided by the U of S are outlined below. These changes are now being posted to University Course Challenge for approval:

Northern Teacher Education Program (NORTEP)

Based in La Ronge, this four-year Concurrent off-campus program is offered jointly by the University of Saskatchewan and the University of Regina.

The objective of the program is to provide an opportunity for northern residents, preferably with fluency in an Aboriginal language, to become certified teachers.

For details on program requirements and admission procedures contact: The Director, NORTEP, Box 5000, La Ronge SK S0J 1L0, Tel: 306-425-4411, Fax: 306-425-3580.

Program Requirements

Northern Teacher Education Program (NORTEP) (126 credit units)

Courses taken through either the University of Saskatchewan or the University of Regina:

Choose 6 English (junior level) credit units from the following:

- ENG 110.6 or choose 2 of ENG 111.3, ENG 112.3, ENG 113.3, or ENG 114.3

Choose 3 Indigenous (junior level) credit units from the following:

- 100-Level INDG Courses

Choose 3 Indigenous (senior level) credit units from the following:

- or Teaching Area 1 or Teaching Area 2 - 200 - 400 level
- 200-Level, 300-Level or 400-Level INDG Courses

Choose 6 Indigenous Language (junior level) credit units from the following:

- 100-LEVEL CREE Courses

Choose 3 Mathematics (junior level) credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level MATH Courses

- 100-Level, 200-Level, 300-Level or 400-Level STAT Courses

Choose 3 credit units from the following:

- HLTH 100.3 or open elective - 100 - 400 level

Choose 3 Kinesiology credit units from the following:

- 100-Level KIN Courses

Choose 3 Fine Arts credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ART Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level DRAM Courses
- 100-Level, 200-Level, 300-Level or 400-Level MUS Courses

Choose 3 credit units from the following:

- CMPT 100.3 or open elective 100-400 level

Choose 3 Science credit units from the following:

- GEOG 120.3
- GEOG 125.3
- GEOG 233.3
- GEOG 235.3
- GEOG 271.3
- GEOG 280.3
- GEOG 322.3
- GEOG 323.3
- GEOG 325.3
- GEOG 328.3
- GEOG 335.3
- GEOG 351.3
- GEOG 423.3
- GEOG 490.3
- GEOL 206.3

- GEOL 226.3
- GEOL 247.3
- GEOL 330.3
- GEOL 384.3
- GEOL 413.3
- GEOL 429.3
- GEOL 450.3
- GEOL 451.3
- EVSC 210.3
- EVSC 220.3
- EVSC 380.3
- EVSC 420.3
- EVSC 430.3
- SLSC 273.3
- 100-Level, 200-Level, 300-Level or 400-Level ACB Courses
- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- 300-Level or 400-Level BIOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level BIOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level BMSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHEM Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMPT Courses
- 200-Level, 300-Level or 400-Level HSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level MCIM Courses
- 200-Level, 300-Level or 400-Level PLSC Courses

Note: Not PLSC 214

Choose 12 credit units from the following:

Teaching Area 1

Note: For Social Sciences/Social Studies as Teaching Area 1 only. If Teaching Area 1 differs, requirements may vary. Please contact NORTEP for additional information.

Choose 6 credit units from the following:

- INDG 270.6 or Teaching Area 2

Note: For English as Teaching Area 2 only. If Teaching Area 2 differs, requirements may vary. Please contact NORTEP for additional information.

Choose 6 credit units from the following:

- Open elective - 200 - 400 level

Required Education Courses (36 credit units)

- EADM 425.3
- EART 303.3
- ~~ECUR 278.3~~ ECUR 310.3
- ECUR 312.3
- ECUR 322.3
- ~~ECUR 370.3~~ ECUR 309.3
- ECUR 382.3
- ECUR 401.3
- ~~EFDT 335.3~~ EFDT 301.3
- EFDT 435.3
- ~~EPSE 258.3~~ EPSE 302.3
- EPSE 390.3

Courses taken through the University of Regina (total of 30 credit units):

The remaining 30 credit units will be completed with University of Regina courses:

- 15 credit units Field Experiences/Internship
- 15 credit units Required Education coursework

Contact NORTEP for more information: The Director, NORTEP, Box 5000, La Ronge SK S0J 1L0, Tel: 306-425-4411, Fax: 306-425-3580.

The following outlines adjustments to the College of Education's Teaching Areas. Only changes that involve courses from outside the College of Education can be challenged.

Bachelor of Education (B.Ed.) - Program 2012

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Elementary - Teaching Area 1 List

Arts Education

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 6 credit units of Art History, Drama History or Music History from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- DRAM 203.3
- DRAM 204.3
- DRAM 303.3
- DRAM 304.3
- MUS 111.3
- MUS 150.3
- MUS 151.3
- MUS 175.3
- MUS 250.3
- MUS 303.3
- MUS 311.3
- MUS 364.3
- MUS 365.3
- MUS 367.3
- MUS 368.3
- MUS 457.3
- MUS 463.3

Choose 12 Fine Arts credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ART Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level DRAM Courses
- 100-Level, 200-Level, 300-Level or 400-Level MUS Courses

English Language Arts

Choose 6 English credit units from the following:

- 100-Level ENG Courses

Choose 12 English credit units from the following:

- 200-Level, 300-Level or 400-Level ENG Courses
- INDG 270.6
-

Mathematics

Choose 6 Mathematics or Statistics (junior level) credit units from the following:

- 100-Level MATH Courses
- 100-Level STAT Courses
- COMM 104.3
-
-

Choose 12 Mathematics or Statistics (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level MATH Courses
- 200-Level, 300-Level or 400-Level STAT Courses
- BPBE 361.3
- CE 316.3
- CE 318.3
- CHE 311.3
- COMM 207.3
- COMM 306.3
- COMM 393.3
- COMM 395.3
- ECON 204.6
- ECON 306.3
- ECON 450.3
- EE 216.3
- GE 210.3
- GEOG 302.3
- ME 450.3
- PLSC 214.3
- PSY 233.3
- PSY 234.3
- SOC 225.3
- SOC 325.3

Modern Languages

~~French courses required for admission are FREN 122.3 and FREN 125.3 or approved equivalents. Bilingual/immersion students must complete FREN 212.3 and FREN 218.3 or approved equivalents.~~ Any

100-level language course taken after the first six credits of language course(s) will be counted as a senior course. Please choose all French courses or all Cree courses for the 18 credit units.

Choose 6 Cree or French (junior level) credit units from the following:

- FREN 122.3 and FREN 125.3 (or approved equivalents)
- FREN 212.3 and FREN 218.3 (applies to Bilingual/Immersion students)
- 100-Level CREE Courses
- ~~100-Level FREN Courses~~

Choose 12 Cree or French (senior level) credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 200-Level, 300-Level or 400-Level FREN Courses

Native Studies

Teacher candidates may choose Native Studies OR Social Sciences/Social Studies as a Teaching Area, but cannot choose both.**Choose 6 Indigenous Studies credit units from the following:**

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses

Choose an additional 12 Indigenous Studies (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level INDG Courses
- HIST 263.6 (formerly HIST 222)
- HIST 264.3
- HIST 265.3
- POLS 222.3
- POLS 322.3
- POLS 323.3
- SOC 219.3
- SOC 319.3
- SOC 320.3
- SOC 341.3
-

Within the 12 credit units, students may choose up to 6 credit units of the following:

CREE 101.6
CREE 110.3
CREE 120.6

Within the 12 credit units, students may choose up to 3 credit units of the following:

ARTH 252.6
ARTH 253.3
ARTH 255.3
ARTH 323.3

ARTH 358.3
ARTH 340.3
ARTH 345.3
ARTH 355.3
ARTH 418.3
ARTH 455.3

Physical Education

Choose 6 Kinesiology (junior level) credit units from the following:

- KIN 121.3
- KIN 122.3

Choose 12 Kinesiology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level KIN Courses
- KIN 150.3, KIN 240.3, KIN 281.3 and KIN 341.3 recommended
-

Science

Please note that PLSC 214.3 cannot be used to fulfill this requirement. Also, please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 18 Science credit units from the following:

- 200-Level, 300-Level or 400-Level ACB Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- 200-Level, 300-Level or 400-Level BIOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level BIOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level BMSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHEM Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMPT Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level HSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level MCIM Courses
- 100-Level, 200-Level, 300-Level or 400-Level PHYS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PLSC Courses
- CE 212.3
- CE 315.3
- CE 317.3
- CE 321.3
- CE 415.3
- CE 416.3
- CE 417.3
- CE 418.3

- CE 463.3
- CE 466.3
- CE 470.3
- CHE 210.3
- CHE 454.3
- EP 225.3
- EP 370.3
- EP 421.3
- EVSC 210.3
- EVSC 220.3
- EVSC 380.3
- EVSC 420.3
- EVSC 430.3
- GE 213.3
- GE 226.3
- GEOG 120.3
- GEOG 125.3
- GEOG 233.3
- GEOG 235.3
- GEOG 271.3
- GEOG 280.3
- GEOG 322.3
- GEOG 323.3
- GEOG 325.3
- GEOG 328.3
- GEOG 335.3
- GEOG 351.3
- GEOG 423.3
- GEOG 490.3
- GEOE 475.3
- ME 215.3
- ME 227.3
- NUTR 120.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 401.3
- PHPY 403.3
- PHPY 405.3
- PHPY 432.6
- SLSC 273.3
- TOX 300.3

Social Sciences/Social Studies

- Teacher candidates may choose Social Sciences/Social Studies OR Native Studies as a Teaching Area, but cannot choose both.Any 100-level course taken after the first 6 credit units will be counted as a senior course.
- At least 6 credit units of the total 18 credit units must include Canadian content.
    - HIST courses with Canadian content are: HIST 125.3, HIST 151.3, HIST 152.3, HIST 253.3, HIST 255.3, HIST 256.3, HIST 257.3, HIST 258.3, HIST 259.3, HIST 260.3, HIST 263.6, HIST 264.3, HIST 265.3, HIST 266.3, HIST 310.3, HIST 350.3, HIST 353.3, HIST 361.3, HIST 362.3, HIST 363.3, HIST 364.3, HIST 365.3, HIST 410.3, HIST 450.6, HIST 466.3, HIST 492.6;
    - ECON course with Canadian content is: ECON 231.3;
    - GEOG courses with Canadian content are: GEOG 202.3, GEOG 204.3, GEOG 381.3, GEOG 386.3, PLAN 342.3, PLAN 343.3, PLAN 442.3;
    - POLS courses with Canadian content are: POLS 204.3, POLS 205.3, POLS 222.3, POLS 225.3, POLS 226.3, POLS 303.3, POLS 304.3, POLS 305.3, POLS 306.3, POLS 307.3, POLS 322.3, POLS 323.3, POLS 349.3, POLS 375.3, POLS 376.3, POLS 404.3, POLS 405.3, POLS 422.3, POLS 424.3, POLS 425.3;
    - SOC courses with Canadian content are: SOC 203.3, SOC 204.3, SOC 219.3, SOC 227.6, SOC 244.3, SOC 246.3, SOC 319.3, SOC 341.3;
    - all INDG courses are acceptable except INDG 221.3 and INDG 272.3.

Choose 6 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- COMM 347.3
- SOC 203.3
- SOC 219.3
- SOC 320.3
- SOC 341.3
-

Choose 6 History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- INDG 271.3
- INDG 281.3
- INDG 280.6
-

Choose 6 Social Sciences credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECON Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses

- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- CLAS 110.3
- CLAS 111.3
- CLAS 220.3
- CLAS 225.3
- CLAS 240.3
- CLAS 242.3
- CLAS 247.3
- CLAS 248.3
- GEOG 130.3
- GEOG 202.3
- GEOG 204.3
- GEOG 208.3
- GEOG 240.3
- GEOG 340.3
- GEOG 364.3
- GEOG 381.3
- GEOG 385.3
- GEOG 386.3
- GEOG 392.3
- GEOG 486.3
- GEOG 491.3
- PLAN 341.3
- PLAN 342.3
- PLAN 343.3
- PLAN 346.3
- PLAN 350.3
- PLAN 442.3
- PLAN 446.3

Elementary - Teaching Area 2 List

Arts Education

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 3 credit units Art History, Drama History or Music History from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- DRAM 203.3
- DRAM 204.3
- DRAM 303.3
- DRAM 304.3

- MUS 111.3
- MUS 150.3
- MUS 151.3
- MUS 175.3
- MUS 250.3
- MUS 303.3
- MUS 311.3
- MUS 364.3
- MUS 365.3
- MUS 367.3
- MUS 368.3
- MUS 457.3
- MUS 463.3

Choose 9 Fine Arts credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ART Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level DRAM Courses
- 100-Level, 200-Level, 300-Level or 400-Level MUS Courses

English Language Arts

Choose 6 English (junior level) credit units from the following:

- 100-Level ENG Courses

Choose 6 English (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level ENG Courses
- INDG 270.6
-

Mathematics

Choose 6 Mathematics or Statistics (junior level) credit units from the following:

- 100-Level MATH Courses
- 100-Level STAT Courses
- COMM 104.3
-
-

Choose 6 Mathematics or Statistics (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level MATH Courses
- 200-Level, 300-Level or 400-Level STAT Courses
- BPBE 361.3

- CE 316.3
- CE 318.3
- CHE 311.3
- COMM 207.3
- COMM 306.3
- COMM 393.3
- COMM 395.3
- ECON 204.6
- ECON 306.3
- ECON 450.3
- EE 216.3
- GE 210.3
- GEOG 302.3
- ME 450.3
- PLSC 214.3
- PSY 233.3
- PSY 234.3
- SOC 225.3
- SOC 325.3

Modern Languages

Choose 12 Language credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses

Native Studies

Teacher candidates may choose Native Studies OR Social Sciences/Social Studies as a Teaching Area, but cannot choose both.Choose 6 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses

Choose an additional 6 Indigenous Studies (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level INDG Courses
- HIST 263.6 (formerly HIST 222)
- HIST 264.3
- HIST 265.3
- POLS 222.3
- POLS 322.3
- POLS 323.3
- SOC 219.3

- SOC 319.3
- SOC 320.3
- SOC 341.3
-

Students may choose up to 6 credit units of the following:

CREE 101.6
CREE 110.3
CREE 120.6

Students may choose up to 3 credit units of the following:

ARTH 252.6
ARTH 253.3
ARTH 255.3
ARTH 323.3
ARTH 358.3
ARTH 340.3
ARTH 345.3
ARTH 355.3
ARTH 418.3
ARTH 455.3

Physical Education

Choose 6 Kinesiology (junior level) credit units from the following:

- KIN 121.3
- KIN 122.3

Choose 6 Kinesiology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level KIN Courses
- KIN 150.3, KIN 240.3, KIN 281.3, and KIN 341.3 recommended.
-

Science

Please note that PLSC 214.3 cannot be used to fulfill this requirement. Also, please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 12 Science credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ACB Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- 200-Level, 300-Level or 400-Level BIOC Courses

- 100-Level, 200-Level, 300-Level or 400-Level BIOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level BMSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHEM Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMPT Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOL Courses
- 100-Level, 200-Level, 300-Level or 400-Level HSC Courses
- 100-Level, 200-Level, 300-Level or 400-Level MCIM Courses
- 100-Level, 200-Level, 300-Level or 400-Level PHYS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PLSC Courses
- CE 212.3
- CE 315.3
- CE 317.3
- CE 321.3
- CE 415.3
- CE 416.3
- CE 417.3
- CE 418.3
- CE 463.3
- CE 466.3
- CE 471.3
- CHE 210.3
- CHE 454.3
- EP 225.3
- EP 370.3
- EP 421.3
- EVSC 210.3
- EVSC 220.3
- EVSC 380.3
- EVSC 420.3
- EVSC 430.3
- GE 213.3
- GE 226.3
- GEOG 120.3
- GEOG 125.3
- GEOG 233.3
- GEOG 235.3
- GEOG 271.3
- GEOG 280.3
- GEOG 322.3
- GEOG 323.3
- GEOG 325.3
- GEOG 328.3
- GEOG 335.3
- GEOG 351.3
- GEOG 423.3
- GEOG 490.3
- GEOE 475.3
- ME 215.3

- ME 227.3
- NUTR 120.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 401.3
- PHPY 403.3
- PHPY 405.3
- PHPY 432.6
- SLSC 273.3
- TOX 300.3

Social Sciences/Social Studies

- Teacher candidates may choose Social Sciences/Social Studies OR Native Studies as a Teaching Area, but cannot choose both.Any 100-level course taken after the first 6 credit units will be counted as a senior course.
- At least 6 credit units of the total 12 credit units must include Canadian content.
    - HIST courses with Canadian content are: HIST 125,3, HIST 151.3, HIST 152.3, HIST 253.3, HIST 255.3, HIST 255.3 HIST 256.3, HIST 257.3, HIST 258.3, HIST 259.3, HIST 260.3, HIST 263.6, HIST 264.3, HIST 265.3, HIST 266.3, HIST 310.3, HIST 350.3, HIST 353.3, HIST 361.3, HIST 362.3, HIST 363.3, HIST 364.3, HIST 365.3, HIST 410.3, HIST 450.6, HIST 466.3, HIST 492.6;
    - ECON course with Canadian content is: ECON 231.3;
    - GEOG courses with Canadian content are: GEOG 202.3, GEOG 204.3, GEOG 381.3, GEOG 386.3, PLAN 342.3, PLAN 343.3, PLAN 442.3;
    - POLS courses with Canadian content are: POLS 204.3, POLS 205.3, POLS 222.3, POLS 225.3, POLS 226.3, POLS 303.3, POLS 304.3, POLS 305.3, POLS 306.3, POLS 307.3, POLS 322.3, POLS 323.3, POLS 349.3, POLS 375.3, POLS 376.3, POLS 404.3, POLS 405.3, POLS 422.3, POLS 424.3, POLS 425.3;
    - SOC courses with Canadian content are: SOC 203.3, SOC 204.3, SOC 219.3, SOC 227.6, SOC 244.3, SOC 246.3, SOC 319.3, SOC 341.3;
    - all INDG courses are acceptable except INDG 221.3 and INDG 272.3.

Choose 3 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- COMM 347.3
- SOC 203.3
- SOC 219.3
- SOC 320.3
- SOC 341.3

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Choose 3 History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- INDG 271.3
- INDG 280.6
- INDG 281.3
-

Choose 6 Social Sciences credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ECON Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- CLAS 110.3
- CLAS 111.3
- CLAS 220.3
- CLAS 225.3
- CLAS 240.3
- CLAS 242.3
- CLAS 247.3
- CLAS 248.3
- GEOG 130.3
- GEOG 202.3
- GEOG 204.3
- GEOG 208.3
- GEOG 240.3
- GEOG 340.3
- GEOG 364.3
- GEOG 381.3
- GEOG 385.3
- GEOG 386.3
- GEOG 392.3
- GEOG 491.3
- GEOG 486.3
- PLAN 341.3
- PLAN 342.3
- PLAN 343.3
- PLAN 346.3
- PLAN 350.3
- PLAN 446.3
- PLAN 446.3
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Sequential Secondary Program Requirements

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Secondary - Teaching Area 1 List

Teacher candidates are required to complete a particular number of credit units in at least two teaching areas (disciplinary fields) that are tightly aligned with Saskatchewan pre-Kindergarten to grade twelve curriculum areas.

Biology

Please note that PLSC 214.3 cannot be used to fulfill this requirement.

Choose 6 Biology (junior level) credit units from the following:

- 100-Level BIOL Courses

Choose 9 Biology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level PLSC Courses
- BIOL 222.3
- BIOL 224.3/BMSC 224.3
- BIOL 228.3
- BIOL 301.3
- BIOL 302.3
- BIOL 312.3
- BIOL 318.3
- BIOL 324.3
- BIOL 325.3
- BIOL 326.3
- BIOL 350.3
- BIOL 361.3
- BIOL 365.3
- BIOL 373.3
- BIOL 410.3
- BIOL 412.3
- BIOL 424.3
- BIOL 436.3
- BIOL 451.3
- BIOL 455.3

- BIOL 458.3
- BIOL 466.3
- BIOL 470.3
- BIOL 475.3
- BIOL 480.3
- BIOL 481.6
- PHPY 401.3
- PHPY 405.3

Choose 9 Biology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level ACB Courses
- 200-Level, 300-Level or 400-Level BIOC Courses
- 200-Level, 300-Level or 400-Level BIOL Courses
- 200-Level, 300-Level or 400-Level BMSC Courses
- 200-Level, 300-Level or 400-Level HSC Courses
- 200-Level, 300-Level or 400-Level MCIM Courses
- ANSC 411.3
- CE 466.3
- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3
- PHPY 306.3
- PHPY 403.3
- PHPY 432.6
- VBSC 324.3
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Chemistry

Choose 6 Chemistry (junior level) credit units from the following:

- 100-Level CHEM Courses

Choose 18 Chemistry (senior level) credit units from the following:

- A course in Analytical Chemistry or Inorganic Chemistry is recommended.
- 200-Level, 300-Level or 400-Level BIOC Courses
- 200-Level, 300-Level or 400-Level BMSC Courses
- 200-Level, 300-Level or 400-Level CHEM Courses
- CE 212.3
- CE 417.3

- CHE 210.3
- CHE 454.3
- PHPY 302.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 432.6
- TOX 300.3
-
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Drama

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 24 Drama credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level DRAM Courses

English Language Arts

Choose 6 English (junior level) credit units from the following:

- 100-Level ENG Courses

Choose 18 English (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level ENG Courses
- INDG 270.6
-

Mathematics

Choose 6 Mathematics or Statistics (junior level) credit units from the following:

- 100-Level MATH Courses
- 100-Level STAT Courses
- COMM 104.3
-

Choose 18 Mathematics or Statistics (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level MATH Courses
- 200-Level, 300-Level or 400-Level STAT Courses
- BPBE 361.3

- CE 316.3
- CE 318.3
- CHE 311.3
- COMM 207.3
- COMM 393.3
- COMM 395.3
- ECON 204.3
- ECON 306.3
- ECON 450.3
- EE 216.3
- GE 210.3
- GEOG 302.3
- ME 450.3
- PLSC 214.3
- PSY 233.3
- PSY 234.3
- SOC 225.3
- SOC 325.3

Modern Languages

Must choose 24 credit units of Cree or French. ~~French courses required for admission are FREN 122.3, and FREN 125.3 or approved equivalents. Bilingual/immersion students must complete FREN 212.3 and FREN 218.3 or approved equivalents.~~

Choose 6 Cree or French (junior level) credit units from the following:

- FREN 122.3 and FREN 125.3 (or approved equivalents)
- FREN 212.3 and FREN 218.3 (applies to Bilingual/Immersion students)
- 100-Level CREE Courses
- ~~100-Level FREN Courses~~

Choose 18 Cree or French (senior level) credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 200-Level, 300-Level or 400-Level FREN Courses

Native Studies

Teacher candidates may choose Native Studies OR Social Sciences/Social Studies as a Teaching Area, but cannot choose both.**Choose 6 Indigenous Studies credit units from**

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses

Choose an additional 18 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- HIST 263.6 (formerly HIST 222)

- HIST 264.3
- HIST 265.3
- POLS 222.3
- POLS 322.3
- POLS 323.3
- SOC 219.3
- SOC 319.3
- SOC 320.3
- SOC 341.3
-

Within the 18 credit units, students may choose up to 6 credit units of the following:

CREE 101.6
CREE 110.3
CREE 120.6

Within the 18 credit units, students may choose up to 3 credit units of the following:

ARTH 252.6
ARTH 253.3
ARTH 255.3
ARTH 323.3
ARTH 358.3
ARTH 340.3
ARTH 345.3
ARTH 355.3
ARTH 418.3
ARTH 455.3

Physical Education - Teaching Area 1

To become a secondary physical education teacher, contact the College of Kinesiology for details on the 5-year combined B.Sc.(Kin.)/B.Ed. program. Graduates of the B.Sc. in Kinesiology can apply to the sequential program using their best 24 credit units of 3 or 6 credit unit Kinesiology courses to comprise their first teaching area.

Physics

Choose 6 Physics (junior level) credit units from the following:

- 100-Level PHYS Courses

Choose 18 Physics or Astronomy credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- 200-Level, 300-Level or 400-Level PHYS Courses
- CE 315.3

- CE 317.3
- CE 321.3
- CE 415.3
- CE 416.3
- CE 418.3
- CE 463.3
- CE 470.3
- EP 370.3
- EP 421.3
- GE 213.3
- GE 226.3
- GEOL 282.3
- GEOL 334.3
- GEOL 335.3
- ME 215.3
- ME 227.3

Social Sciences/Social Studies

- Teacher candidates may choose Social Sciences/Social Studies OR Native Studies as a Teaching Area, but cannot choose both.Any 100-level course taken after the first 6 credit units will be counted as a senior course.
- At least 6 credit units of the total 18 credit units must include Canadian content.
    - HIST courses with Canadian content are: HIST 125.3, HIST 151.3, HIST 152.3, HIST 253.3, HIST 255.3, HIST 256.3, HIST 257.3, HIST 258.3, HIST 259.3, HIST 260.3, HIST 263.6, HIST 264.3, HIST 265.3, HIST 266.3, HIST 310.3, HIST 350.3, HIST 353.3, HIST 361.3, HIST 362.3, HIST 363.3, HIST 364.3, HIST 365.3, HIST 410.3, HIST 450.6, HIST 466.3, HIST 492.6;
    - ECON course with Canadian content is: ECON 231.3;
    - GEOG courses with Canadian content are: GEOG 202.3, GEOG 204.3, GEOG 381.3, GEOG 386.3, PLAN 342.3, PLAN 343.3, PLAN 442.3;
    - POLS courses with Canadian content are: POLS 204.3, POLS 205.3, POLS 222.3, POLS 225.3, POLS 226.3, POLS 303.3, POLS 304.3, POLS 305.3, POLS 306.3, POLS 307.3, POLS 322.3, POLS 323.3, POLS 349.3, POLS 375.3, POLS 376.3, POLS 404.3, POLS 405.3, POLS 422.3, POLS 424.3, POLS 425.3;
    - SOC courses with Canadian content are: SOC 203.3, SOC 204.3, SOC 219.3, SOC 227.6, SOC 244.3, SOC 246.3, SOC 319.3, SOC 341.3;
    - all INDG courses are acceptable except INDG 221.3 and INDG 272.3.

Choose 6 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- COMM 347.3
- SOC 203.3
- SOC 219.3
- SOC 320.3

- SOC 341.3
-

Choose 6 History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- INDG 271.3
- INDG 280.6
- INDG 281.3
-

Choose 12 Social Sciences credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECON Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- CLAS 110.3
- CLAS 111.3
- CLAS 220.3
- CLAS 225.3
- CLAS 240.3
- CLAS 242.3
- CLAS 247.3
- CLAS 248.3
- GEOG 130.3
- GEOG 202.3
- GEOG 204.3
- GEOG 208.3
- GEOG 240.3
- GEOG 340.3
- GEOG 364.3
- GEOG 381.3
- GEOG 385.3
- GEOG 386.3
- GEOG 392.3
- GEOG 486.3
- GEOG 491.3
- PLAN 341.3
- PLAN 342.3
- PLAN 343.3
- PLAN 346.3
- PLAN 350.3

- PLAN 442.3
- PLAN 446.3

Visual Arts

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 6 Art History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses

Choose 18 Art or Art History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ART Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses

Must include 2 different studio areas (painting, drawing, printmaking, extended media, sculpture, and/or photography) within ART:

Painting: ART 111.6, ART 211.6, ART 311.6, ART 411.6, ART 421.6, ART 431.6

Drawing: ART 112.6, ART 212.6, ART 312.6, ART 412.6, ART 422.6, ART 432.6

Printmaking: ART 113.6, ART 213.6, ART 313.6, ART 413.6, ART 423.6, ART 433.6

Extended Media: ART 136.3, ART 236.6, ART 237.3, ART 338.3, ART 339.3, ART 438.3, ART 439.3

Sculpture: ART 141.3, ART 241.3, ART 242.3, ART 341.3, ART 342.3, ART 441.3, ART 442.3, ART 443.3, ART 445.3, ART 446.3

Photography: ART 161.3, ART 216.6, ART 235.3, ART 316.6, ART 416.6, ART 426.6, ART 436.6

Secondary - Teaching Area 2 List

Teacher candidates are required to complete a particular number of credit units in at least two teaching areas (disciplinary fields) that are tightly aligned with Saskatchewan pre-Kindergarten to grade twelve curriculum areas.

Biology

Please note that PLSC 214.3 cannot be used to fulfill this requirement.

Choose 6 Biology (junior level) credit units from the following:

- 100-Level BIOL Courses

Please note that PLSC 214.3 cannot be used to fulfill this requirement.

Choose 6 Biology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level PLSC Courses
- BIOL 222.3
- BIOL 224.3/BMSC 224.3
- BIOL 228.3
- BIOL 301.3
- BIOL 302.3
- BIOL 312.3 or NRTH 312.3
- BIOL 318.3
- BIOL 324.3
- BIOL 325.3
- BIOL 326.3
- BIOL 350.3
- BIOL 361.3
- BIOL 365.3
- BIOL 373.3
- BIOL 410.3
- BIOL 412.3
- BIOL 424.3
- BIOL 436.3
- BIOL 451.3
- BIOL 455.3
- BIOL 458.3
- BIOL 466.3
- BIOL 470.3
- BIOL 475.3
- BIOL 480.3
- BIOL 481.6
- PHPY 401.3
- PHPY 405.3

Choose 3 Biology (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level ACB Courses
- 200-Level, 300-Level or 400-Level BIOC Courses
- 200-Level, 300-Level or 400-Level BIOL Courses
- 200-Level, 300-Level or 400-Level BMSC Courses
- 200-Level, 300-Level or 400-Level HSC Courses
- 200-Level, 300-Level or 400-Level MCIM Courses
- ANSC 411.3
- CE 466.3
- HSC 350.3
- PHPY 301.3
- PHPY 302.3
- PHPY 303.3

- PHPY 306.3
- PHPY 403.3
- PHPY 432.6
- VBSC 324.3
-
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-

Chemistry

Choose 6 Chemistry (junior level) credit units from the following:

- 100-Level CHEM Courses

Choose 9 Chemistry (senior level) credit units from the following:

- A course in Analytical Chemistry or Inorganic Chemistry is recommended.
- 200-Level, 300-Level or 400-Level BIOC Courses
- 200-Level, 300-Level or 400-Level BMSC Courses
- 200-Level, 300-Level or 400-Level CHEM Courses
-
- CE 212.3
- CE 417.3
- CHE 210.3
- CHE 454.3
- PHPY 302.3
- PHPY 304.3
- PHPY 305.3
- PHPY 306.3
- PHPY 307.3
- PHPY 432.6
- TOX 300.3
-
-
-

Drama

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 15 Drama credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level DRAM Courses

English Language Arts

Choose 6 English (junior level) credit units from the following:

- 100-Level ENG Courses

Choose 9 English (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level ENG Courses
- INDG 270.6
-

Mathematics

Choose 6 Mathematics or Statistics (junior level) credit units from the following:

- 100-Level MATH Courses
- 100-Level STAT Courses
- COMM 104.3
-
-

Choose 9 Mathematics or Statistics (senior level) credit units from the following:

- 200-Level, 300-Level or 400-Level MATH Courses
- 200-Level, 300-Level or 400-Level STAT Courses
- BPBE 361.3
- CE 316.3
- CE 318.3
- CHE 311.3
- COMM 207.3
- COMM 393.3
- COMM 395.3
- ECON 204.3
- ECON 306.3
- ECON 450.3
- EE 216.3
- EPSE 441.3
- GE 210.3
- GEOG 302.3
- ME 450.3
- PLSC 214.3
- PSY 233.3
- PSY 234.3
- SOC 225.3
- SOC 325.3

Modern Languages

Must choose 15 credit units of Cree or French~~. French courses required for admission are FREN 122.3 and FREN 125.3 or approved equivalents. Bilingual/immersion students must complete FREN 212.3 and FREN 218.3 or approved equivalents.~~

Choose 6 Cree or French (junior level) credit units from the following:

- FREN 122.3 and FREN 125.3 (or approved equivalents)
- FREN 212.3 and FREN 218.3 (applies to Bilingual/Immersion students)
- 100-Level CREE Courses
- ~~100-Level FREN Courses~~
-

Choose 9 Cree or French (senior level) credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 200-Level, 300-Level or 400-Level FREN Courses

Native Studies

Teacher candidates may choose Native Studies OR Social Sciences/Social Studies as a Teaching Area, but cannot choose both.

Choose 6 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses

Choose an additional 9 Indigenous Studies credit units from the following:

- 200-Level, 300-Level or 400-Level INDG Courses
- HIST 263.6 (formerly HIST 222)
- HIST 264.3
- HIST 265.3
- POLS 222.3
- POLS 322.3
- POLS 323.3
- SOC 219.3
- SOC 319.3
- SOC 320.3
- SOC 341.3
-

Within the 9 credit units, students may choose up to 6 credit units of the following:

CREE 101.6
CREE 110.3
CREE 120.6

Within the 9 credit units, students may choose up to 3 credit units of the following:

ARTH 252.6
ARTH 253.3
ARTH 255.3
ARTH 323.3
ARTH 358.3
ARTH 340.3
ARTH 345.3
ARTH 355.3
ARTH 418.3
ARTH 455.3

Physics

Choose 6 Physics (junior level) credit units from the following:

- 100-Level PHYS Courses

Choose 9 Physics or Astronomy credit units from the following:

- 200-Level, 300-Level or 400-Level PHYS Courses
- 100-Level, 200-Level, 300-Level or 400-Level ASTR Courses
- CE 315.3
- CE 317.3
- CE 321.3
- CE 415.3
- CE 416.3
- CE 418.3
- CE 463.3
- CE 470.3
- EP 370.3
- EP 421.3
- GE 213.3
- GE 226.3
- GEOL 282.3
- GEOL 334.3
- GEOL 335.3
- ME 215.3
- ME 227.3

Social Sciences/Social Studies

Teacher candidates may choose Social Sciences/Social Studies OR Native Studies as a Teaching Area, but cannot choose both.

- Any 100-level course taken after the first 6 credit units will be counted as a senior course.
- At least 6 credit units of the total 15 credit units must include Canadian content.
    - HIST courses with Canadian content are: HIST 125,3, HIST 151.3, HIST 152.3, HIST 253.3, HIST 255.3, HIST 255.3 HIST 256.3, HIST 257.3, HIST 258.3, HIST 259.3, HIST 260.3, HIST

263.6, HIST 264.3, HIST 265.3, HIST 266.3, HIST 310.3, HIST 350.3, HIST 353.3, HIST 361.3, HIST 362.3, HIST 363.3, HIST 364.3, HIST 365.3, HIST 410.3, HIST 450.6, HIST 466.3, HIST 492.6;

- ECON course with Canadian content is: ECON 231.3;
- GEOG courses with Canadian content are: GEOG 202.3, GEOG 204.3, GEOG 381.3, GEOG 386.3, PLAN 342.3, PLAN 343.3, PLAN 442.3;
- POLS courses with Canadian content are: POLS 204.3, POLS 205.3, POLS 222.3, POLS 225.3, POLS 226.3, POLS 303.3, POLS 304.3, POLS 305.3, POLS 306.3, POLS 307.3, POLS 322.3, POLS 323.3, POLS 349.3, POLS 375.3, POLS 376.3,POLS 404.3, POLS 405.3, POLS 422.3, POLS 424.3, POLS 425.3;
- SOC courses with Canadian content are: SOC 203.3, SOC 204.3, SOC 219.3, SOC 227.6, SOC 244.3, SOC 246.3, SOC 319.4, SOC 341.3;
- all INDG courses are acceptable except INDG 221.3 and INDG 272.3.

Choose 6 Indigenous Studies credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- COMM 347.3
- SOC 203.3
- SOC 219.3
- SOC 320.3
- SOC 341.3
-

Choose 6 History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- INDG 271.3
- INDG 280.6
- INDG 281.3
-

Choose 3 Social Sciences credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ECON Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- CLAS 110.3
- CLAS 111.3
- CLAS 220.3
- CLAS 225.3

- CLAS 240.3
- CLAS 242.3
- CLAS 247.3
- CLAS 248.3
- GEOG 130.3
- GEOG 202.3
- GEOG 204.3
- GEOG 208.3
- GEOG 240.3
- GEOG 340.3
- GEOG 364.3
- GEOG 381.3
- GEOG 385.3
- GEOG 386.3
- GEOG 392.3
- GEOG 486.3
- GEOG 491.3
- PLAN 341.3
- PLAN 342.3
- PLAN 343.3
- PLAN 346.3
- PLAN 350.3
- PLAN 442.3
- PLAN 446.3

Visual Arts

Please note that any 100-level course taken after the first 6 credit units will be counted as a senior course.

Choose 6 Art History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses

Choose 9 Art or Art History credit units from the following:

- 100-Level, 200-Level, 300-Level or 400-Level ART Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses

Must include 2 different studio areas (painting, drawing, printmaking, extended media, sculpture, and/or photography) within ART:

Painting: ART 111.6, ART 211.6, ART 311.6, ART 411.6, ART 421.6, ART 431.6

Drawing: ART 112.6, ART 212.6, ART 312.6, ART 412.6, ART 422.6, ART 432.6

Printmaking: ART 113.6, ART 213.6, ART 313.6, ART 413.6, ART 423.6, ART 433.6

Extended Media: ART 136.3, ART 236.6, ART 237.3, ART 338.3, ART 339.3, ART 438.3, ART 439.3

Sculpture: ART 141.3, ART 241.3, ART 242.3, ART 341.3, ART 342.3, ART 441.3, ART 442.3, ART 443.3, ART 445.3, ART 446.3

Photography: ART 161.3, ART 216.6, ART 235.3, ART 316.6, ART 416.6, ART 426.6, ART 436.6

Edwards School of Business – December, 2015 University Course Challenge Submission

The following curricular changes have been approved by the college and are now being posted to University Course Challenge for information:

Course Deletions:

COMM 109.0 — 1/2
Library Research I

Introduction to the University of Saskatchewan libraries and the wide variety of electronic resources available.

COMM 110.0 — 1
Computer Skills

Introduction to the computer skills necessary to successfully use computers and software in upper year courses. Consists of three modules: General Computing, Spreadsheets and Word Processing.
Note: Workshops run for eight consecutive weeks.

COMM 209.0 — 1/2
Library Research II

Introduction to a variety of sources of industrial information including company reports, standard industrial classification schemes, statistical information and stocks and bonds.
Prerequisite(s): COMM 109.0.

COMM 300.3 — 1(3L)
Business Communication II

Building upon the foundation of COMM 100, this course focuses on responsible, professional internal and external communication in an environment of socio-cultural, economic, technological, regulatory, and other change. Students will examine the roles and responsibilities of individuals and organizations and the particular challenges and opportunities of communicating in an increasingly diverse workplace and a global knowledge economy. Topics include ethical communication, professional standards, and corporate social responsibility; cross-cultural communication; equity and diversity; and information technology policies, protocols, and procedures.
Prerequisite(s): BSCM 100.3 or COMM 100.3

COMM 413.3 — 1/2(3S)
Contemporary Issues in Accounting

Examines various contemporary issues facing the 'accounting profession'. These issues are drawn from both the academic and professional accounting literatures. The course challenges students to develop (more) informed positions on various issues, and exercises and improves their skills in critical thinking, persuasive writing and effective oral communication. Class meetings take place in an interactive, 'seminar-style' format and include the use of formal debates. Students must also submit term papers.

Formerly: ACC 413.3
Permission of the department required.
Prerequisite(s): COMM 323.3

New Course Proposal:

COMM 307.3 — 1(3L)
Management Information Systems

Description

This course is an introduction to how firms use information technology and systems to achieve corporate objectives, compete in today's business environment and improve performance. Students will also receive experiential training in relevant business applications.

Prerequisite(s): Comm 205
Note:

Rationale: Students will be allowed to use COMM 307.3 or COMM 300.3 to satisfy B.Comm. program requirements; however, the two courses are not identical and, as such, can both be taken for credit.

UNIVERSITY OF SASKATCHEWAN

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: **Yes, as per department meeting held on December 7th, 2015.**

2. Information required for the Catalogue

   2.1 Label & Number of course: **Comm 307**

   2.2 Title of course: **Management Information Systems**

   2.3 Total Hours: **39** Lecture **20** Seminar Lab **19** Tutorial Other

   2.4 Weekly Hours: Lecture **80 mins** Seminar Lab **80 mins** Tutorial Other

   2.5 Term in which it will be offered: T1 T2 T1 or T2 **T1 and T2**

   2.6 Prerequisite: **Comm 205**

   2.7 Calendar description: **This course is an introduction to how firms use information technology and systems to achieve corporate objectives, compete in today's business environment and improve performance. Students will also receive experiential training in relevant business applications.**

   2.8 Any additional notes

3. Rationale for introducing this course. **The curriculum committee did a review of the core offerings of all U 15 institutions in Canada and they all offered a similar course to the one being proposed and 10 of them required this course as part of their core. A sample of students were consulted and they were overwhelmingly in support of including this in the core program. Extensive use of information technology is essential for business to survive and thrive in our global and competitive environment. Students must have an overview and a foundation in this area to be successful.**

4. Learning Objectives for this course. **Please see the attached course outline**

5. Impact of this course. **There will be no impact on other Colleges.**
   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?

6. Other courses or program affected (please list course titles as well as numbers).
   Course(s) to be deleted? **This course is replacing another core course in the Edwards program for all students. Comm 300 has been deleted.**
   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. **Attached**
(Weekly outline of lectures or include a draft of the course information sheet.)

COURSE SCHEDULE		
Week 1	Introduction to Information Systems	Chapter 1
Week 2	Alignment of Organizational and Information System Strategies.	Chapter 2
Week 3	Defining Information Requirements, Databases.	Chapter 3
Week 4	Transaction processing, functional area information systems and Enterprise Resource Planning (ERP)	Chapter 8
Week 5	Role of IT in Customer Relationship Management and Supply Chain Management.	Chapter 9
Week 6	Business Intelligence and Analytics	Chapter 10
Week 7	Data Mining and Data Warehousing.	
Week 8	E-Businesses and E- Commerce.	Chapter 5
Week 9	Wireless, Mobile Computing	Chapter 6
Week 10	Social Computing	Chapter 7
Week 11	Acquiring Information Systems and Applications	Chapter 11
Week 12	Ethics and Privacy	Chapter 12
Week 13	Information Security	Chapter 13

8. Enrolment.
Expected enrollment: **360 - 400**
From which colleges? **Edwards required core course.**

9. Student evaluation.
Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

Assignments	20%
Project	20%
Midterm	25%
Attendance	5%
Final Exam	30%
Total	100%

10. Required text:
Include a bibliography for the course.

Introduction to Information Systems. 3rd Canadian edition by R. Kellt Rainer, Casey G. Cegieiski, Ingrid Splettstoesser - Hogeterp, Cristobal Sanchez-Rodriguez, 2016

11. Resources.

Proposed instructor: **TBD (new hire)**
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: **Fall 2016/17**
To be offered: X annually biennially other

INTEROFFICE MEMORANDUM

TO: MS. SEANINE WARRINGTON
COORDINATOR OF ACADEMIC PROGRAMS & CATALOGUE, SESD

FROM: MR. CHRISTOPHER MARTIN
ACADEMIC PROGRAMS COORDINATOR, COLLEGE OF ENGINEERING

SUBJECT: **UNIVERSITY COURSE CHALLENGE – DECEMBER 2015**

DATE: DECEMBER 9, 2015

CC: DR. BRUCE SPARLING
INTERIM DEAN AND ASSOCIATE DEAN ACADEMIC, COLLEGE OF ENGINEERING

Ms. Seanine Warrington:

On behalf of the College of Engineering, I am writing to inform you that the attached curricular revisions were approved by our college-level Undergraduate Academic Programs Committee and are now submitted to the University Course Challenge for review and approval.

Should any members of the university community have any questions or concerns regarding the proposed changes, please do not hesitate to redirect such inquiries to me directly.

Sincerely,

Christopher Martin, B.B.A.
Academic Programs Coordinator
College of Engineering
Phone: (306) 966-3201

Course Creations

CE 202.3 — 1(1.5L-3P)
Spatial Analysis and Engineering Drawings

Analysis and representation of spatial data in engineering and development of engineering drawings. Topics include: computer-aided design (CAD), mapping and coordinate systems, and design of engineering solutions for practical layout and volume problems in two and three dimensions.

Prerequisite(s): GE 121

> *Rationale: Undergraduate students in the Civil and Geological Engineering program currently complete CAD 1800, the equivalent of CE 201.0 at Saskatchewan Polytechnic. The College of Engineering wishes to offer a more in-depth course that covers spatial analysis and engineering drawings.*

EE 321.3— 1(3L-3P)
Advanced Analog Electronics and Instrumentation

Topics include frequency response and the role of feedback in electronic circuits, differential and multistage MOS and BJT amplifiers, real operational amplifier characteristics, instrumentation amplifiers, active filters, oscillators, waveform generation circuits and power supplies. Transducers, noise and noise reductions techniques, and measurement theory and standards are also covered, along with analog and digital interfacing circuits.

Formerly: EP 313
Prerequisite(s): EP 214, EE 221 and EE 232.
Note: Students with credit for EE 323 will not receive credit for this course. First offered in 2013-2014.

> *Rationale: The College of Engineering and the College of Arts and Science are collaborating to relabel EP 313 as EE 321. While approval has not been received from the College of Arts and Science, the College of Engineering wishes to begin the process by creating EE 321.3*

ME 494.3 — 1&2(3L-1.5P)
Off Highway Equipment Design

This class involves the design, construction and testing of an off highway prototype. Students will gain experience in working with a design group, machine design, setting design constraints, component testing, fabrication, machine performance testing, design report preparation and business management. Students taking this course for credit will be required to assume responsibility for one aspect of the machine and prepare all design documentation, operating and safety procedures and component testing reports. Students are also required to be liaisons with industrial suppliers and sponsors of the program. Graphics design software is used extensively.

Formerly: BLE 475, ABE 475
Prerequisite(s) or Corequisite(s): BLE 495, ME 495, or EE 495.
Note: Students with credit for ABE 475 or BLE 475 cannot receive credit for ME 494.

Rationale: This class involves the design, construction and testing of an off highway prototype. Students will gain experience in working with a design group, machine design, setting design constraints, component testing, fabrication, machine performance testing, design report preparation and business management. Students taking this course for credit will be required to assume responsibility for one aspect of the machine and prepare all design documentation, operating and safety procedures and component testing reports. Students are also required to be liaisons with industrial suppliers and sponsors of the program. Graphics design software is used extensively.

Course Deletions

BLE 475.3 — 1&2(3L-1.5P)
Off Highway Equipment Design

This class involves the design, construction and testing of an off highway prototype. Students will gain experience in working with a design group, machine design, setting design constraints, component testing, fabrication, machine performance testing, design report preparation and business management. Students taking this course for credit will be required to assume responsibility for one aspect of the machine and prepare all design documentation, operating and safety procedures and component testing reports. Students are also required to liaison with industrial suppliers and sponsors of the program. Solid Works graphics design software is used extensively.

Formerly: ABE 475
Prerequisite(s) or Corequisite(s): BLE 495, ME 495 or EE 495.
Note: Students with credit for ABE 475 will not receive credit for this course.

Rationale: The course has been relabelled as ME 494.3.

Minor Course Revisions

CE 225.3 — 2(3L-3P alt weeks)
Fluid Mechanics

Provides an introduction to the subject area of fluid mechanics including the properties of fluids, fluid statics, kinematics, laminar and turbulent flow in pipes, Reynolds Transport Theorem, conservation equations of mass, momentum, and energy, Bernoulli equation and its applications, and measurement of fluid properties, pressure, velocity, and discharge.

Prerequisite(s): GE 125 and MATH 223 (taken).
Note: Students with credit for CHE 210 or ME 215 will not receive credit for this course.

Rationale: CHE 210 and ME 215 are generally taken as equivalents for CE 225 in the College of Engineering.

CE 271.2 — 3(P-2weeks)
Spring Surveying Camp

Basic introduction to the use and adjustments of survey equipment, and the associated field work and data interpretation required for engineering projects.
Prerequisite(s): CE 201 **or CE 202.**

Note: This is a two-week field camp immediately following second term (T2) final examinations.

> *Rationale: CE 202 will replace CE 201 in the Civil Engineering and Geological Engineering undergraduate programs.*

CE 329.3 — 2(3L-3P alt weeks)
Transportation Engineering

This course introduces civil engineering students to the planning, design, operation, and safety of road transportation systems. Topics include: fundamentals of traffic flow theory, highway capacity analysis, geometric design, intelligent transportation systems, travel demand forecasting methods, and safety analysis.

Prerequisite(s) or Corequisite(s): CE 271 (taken) and GE 210 (taken).

> *Rationale: The prerequisite of CE 271 for CE 329 was put in place to encourage the students to take CE 271 in their second year. However, it was not the intent to prevent the students from taking CE 329 if they failed CE 271.*

CE 468.3 — 1(3L-3P alt weeks)
~~**Geoenvironmental Engineering**~~ **Environmental Geotechnics**

Geotechnical aspects of waste and waste containment. Nature of soils, contaminants and contaminant transport processes in the subsurface. Saturated and unsaturated flow in soils and performance of natural and geosynthetic base barrier, drainage and cover systems. Mechanical aspects and stability of waste containment facilities. Analytical tools and their role in design of containment systems. Key design elements and case studies of municipal, mining and industrial wastes.

Prerequisite(s): CE 328.

> *Rationale: A course renaming was approved in 2014 but never applied to the catalogue.*

GEOE 315.3 — 2(3L-3P alt weeks)
Rock Mechanics

Physical properties of rock. Rock stress-deformation behaviour and failure. Laboratory and in situ testing.

Prerequisite(s): ~~((GE 213 and GEOE 218) or (PHYS 125 and GEOL 258)).~~ **CE 328 and GEOE 218.**

Rationale: CE 328 covers the pertinent failure modes, groundwater flow nets and soil stress states that are applied in GEOE 315. CE 328 used to be a prerequisite for GEOE 315, but this was changed when CE 328 was delivered in the 2nd term. CE 328 has moved back to first term.

GEOE 377.3 — 1(1.5T)
~~**Introduction to Mining and Mineral Processing Engineering**~~ **Fundamentals of Mining and Mineral Processing**

Provides the student with a basic understanding of mining engineering and the mining industry. The mining component of the course will introduce the drill and blast cycle, mining methods, and the economic evaluation of mineral properties. The mineral process-engineering component will introduce mineral separation processes including gravity, electrostatic and flotation separation.

Prerequisite(s): GEOL 121 and GE 213 or a corequisite of GEOL 465.

Rationale: Including the title of "introductory" inappropriate for a third-year course.

GEOE 431.3 — 2(3L-1.5P)
Mine Design

Selection, design, and development of underground mining methods based upon physical, geological, economic, and environmental constraints. This course will provide the mining engineer with the knowledge to determine the optimum mining method for a deposit, the selection of equipment, production requirements, and costing.

~~Prerequisite(s): GEOE 377 and GEOE 315~~
~~Prerequisite(s) or Corequisite(s): GEOE 430 (prerequisite) and GEOE 380 (Corequisite)~~
Prerequisite(s): GEOE 377 and GEOE 315 and (GEOE 430 as a prerequisite or GEOE 380 as a co-requisite).

Rationale: The Mining Option in the GEOE Program allows no flexibility in the selection and timing of electives. This change will make it a bit easier to complete the option. Required material can be provided with limited review for the students needing it.

GEOE 475.3 — 1(3L-1.5T)
~~**Advanced Hydrogeology**~~ **Engineering Hydrogeology**

Contaminant transport; regional groundwater flow; petroleum hydrogeology; fluid migration in basins; surface-water groundwater interaction; introduction to groundwater modelling.

Prerequisite(s) or Corequisite(s): (ENVE 432 or CE 328 or CHE 324 or ME 335) or (CHEM 112 and MATH 110 and 30 credit units from GEOL 200-499).

Rationale: GeoE 475 Advanced Hydrogeology was preceded by a basic hydrogeology class in the mid-1990s. Since this course is now the first course offered to undergraduate student in hydrogeology, the advanced term is not appropriate.

CHE 315.3 — 2(3L-2T alt weeks)
~~**Mass Transfer I**~~ **Equilibrium Stage Operations**

Mass transfer operations involving contact by stages, including single-stage, binary multiple-stage contacting, and multicomponent multiple-stage contacting. Gas absorption, distillation, and liquid extraction are included.

Prerequisite(s): CHE 323.

> *Rationale: The new title better reflects the course contents of CHE315 and addresses the comment by accreditation review team.*

CHE 369.3 — 1/2(3L)
Fundamentals of Mineral Processing and Hydrometallurgy

Introduction to the fundamentals of mineral processing and hydrometallurgy. Topics include: process mineralogy, liberation and comminution, classification, physical separation and concentration techniques, solid-liquid separation, drying and calcining, ion exchange of metals, electrowinning of metals, sampling and assaying, and process control in mineral processing.

~~**Prerequisite(s):** GEOL 224.3 and GEOE 377.3~~
Prerequisite(s): GEOL 224.3 and GEOE 377.3 CHE 210, ME 215, or CE 225.
Note: Priority registration is given to undergraduate students in the Chemical Engineering undergraduate program. Undergraduate students registered in other disciplines must obtain permission from the Department of Chemical and Biological Engineering to register in this course.

> *Rationale: CHE 369 is a program elective for the Chemical Engineering undergraduate program, however, can also be used for the degree requirements in other programs.*

CHE 431.1 — 1&2(1S)
Seminar

Current and future technological changes and their impacts on society are explored from a chemical engineering and a professional engineering point of view. Impacts of petroleum production, mineral industries, and chemical industries. Topics involving health and safety issues in the chemical industries are discussed.

~~Prerequisite(s): CHE 332.~~
Prerequisite: CHE 326 (taken)
Prerequisite(s) or Corequisite(s): RCM 300.

> *Rationale: Students have ample opportunities to develop their communication and presentation skills and having a two term seminar course in the chemical engineering program is excessive. Feedback from students and instructors of the seminar courses corroborate this. Reducing the length of CHE431 will open up additional teaching hours in the fourth year.*

CHE 464.3 — 1/2(3L)
Petroleum Production Engineering

An introduction to the techniques used in the production of oil and natural gas. Topics include an introduction to petroleum geology, properties of reservoir rocks and petroleum fluids, inflow performance of vertical and horizontal wells. Wellbore hydraulics, well testing and well stimulation.

~~Prerequisite(s): CHE 210.~~
Prerequisite(s): CHE 210 or ME 215 or CE 225
Note: Registration into this course is restricted to undergraduate students registered in the Chemical Engineering program. Undergraduate students registered in other disciplines must obtain permission from the Department of Chemical and Biological Engineering to register in this course.

> *Rationale: Each of the proposed prerequisites are Fluid Mechanics courses, each with a differing perspective.*

CHE 470.0 — 1/2(P)
Industrial Site Visitation

Visits to industrial plants.

~~Note: This course i offered in alternating years. For information on course availability, please contact the Department of Chemical and Biological Engineering.~~
~~Note: Student should take this course in either third or fourth year.~~
Note: Student should take this course in either third or fourth year. Priority registration is given to fourth or final-year of studies in the Chemical Engineering undergraduate program.

> *Rationale: The course is now offered each year (as opposed to alternating years).*

ME 314.3 — 2(3L)
Machine Design

Deals with various machine design fundamentals and the use of integrated design software. Design for fatigue and consideration of fracture mechanics is emphasized. Topics include: the selection of fasteners, rolling element bearings, V-belts and roller chains and the design of coil and leaf springs, spur gears, clutches and brakes.

~~Prerequisite(s): ME 313 (taken) or BLE 324 (may be taken concurrently) and ME 226 and ME 251 and ME 324 (taken) and MATH 224.~~
Prerequisites: ME 313 (taken), ME 226, ME 251 (taken), ME 324 (taken), and MATH 224 (taken).

> *Rationale: When ME 316.3 Dynamics and Vibrations was removed from the core ME curriculum, changes were made to the prerequisites for several ME courses that originally depended on ME316. For ME 314 and ME 352, the changes unintentionally resulted in a more rigid prerequisite structure for Year 3. By making changing the ME 251 and MATH 224 to "taken" prerequisites, the original program flexibility is restored. We have also used this as an opportunity to remove the BLE course from the list of prerequisites for ME 314, as a "housekeeping" change, and clean up the wording of the list of courses (removing extra "ands").*

ME 352.3 — 2(3L)
Engineering Analysis III

The Laplace Transform as a tool in the solving of differential equations is introduced. First and second order initial value differential equations are examined in context with engineering terms and applications. Transient and frequency responses are examined. Modeling of mechanical and electro-mechanical systems is introduced. Using the mathematical models combined with computer techniques, design of linear systems is considered.

~~**Prerequisite(s):** ME 226 and ME 251 and MATH 224.~~
Prerequisite(s): ME 226, ME 251 (taken), and MATH 224 (taken).

> *Rationale: The proposed prerequisites will ensure students still have the knowledge required for the course.*

Minor Program Revisions

Bachelor of Science in Engineering – Chemical Engineering

Chemical Engineering deals chiefly with industrial processing to produce value-added products from raw materials. The processing of organic (crude oils, natural gas, lumber), inorganic (ores, air, salts) and biological (starches, cellulose, fats) materials into a wide range of useful commodity products, such as fuels, plastics, pharmaceuticals, fertilizers, and foods is carried out within a framework of environmental sustainability and concern for worker/public safety. Emphasis is on the design, construction and economic operation of equipment in these areas, and on related research and development. Some emphasis on environmental studies, mineral processing, petrochemicals and bio-chemicals is permitted through the choice of electives.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Please consult an Academic Advisor for assistance in choosing electives.

Note: Students in the Chemical Engineering Undergraduate Program cannot use ENVE 201 as a substitute for CHEM 242.

Students in the Chemical Engineering program may complete the regular program or they may choose to complete one of the following three options: the Biochemical Option, the Mineral Processing Option, or the Petroleum Option. The requirements for these three options are listed below.

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (36 credit units)

Term 1

- EE 204.3
- CHE 220.3
- CHEM 250.3
- GE 213.3
- MATH 223.3
- CHEM 242.3 (If CHEM 115.3 has not been taken, it must be taken in this term.)

Term 2

- CHE 210.3
- CHE 223.3
- CHEM 221.3 or BMSC 240.3
- CMPT 113.3
- MATH 224.3
- 3 credit units Group A Elective (students must take CHEM 242.3 if not taken in Term 1)

Year 3 (32 - 35 credit units)

Term 1

- CHE 323.3
- CHE 325.3
- CHEM 231.3
- GE 210.3

Term 2

- CHE 315.3
- CHE 322.3
- CHE 324.3
- CHE 326.3
- CHE 333.2

~~Term 1 and Term 2~~

- ~~CHE 332.0~~

Term 1 or Term 2

- GE 348.3
- RCM 300.3
- 3 credit units Complementary Studies Elective (over year 3 or year 4)
- 6 credit units Group B Elective (over year 3 or year 4)

Year 4 (35 - 38 credit units)

Term 1

- CHE 411.3
- CHE 414.2
- CHE 421.3
- CHE 423.3

Term 2

- CHE 424.2
- CHE 470.0 ~~Field Trip (Offered in alternate years. Student must take the class in either third or fourth year.)~~
- GE 449.3
- 3 credit units Group B Elective or a 400-level approved Technical Elective from another Department

Term 1 or Term 2

- **CHE 431.1**

Term 1 and Term 2

- CHE 495.6
- ~~CHE 431.3~~

Term 1 or Term 2

- ~~GE 348.3~~
- 6 credit units Group B Elective (over year 3 or year 4)
- 3 credit units Senior Humanities or Social Science Elective

Engineering (B.E.) - Biochemical Option - Bachelor of Science

An "Option" within the College of Engineering is a prescribed set of courses that provides a concentration of specialized training in one particular field of study. Options are approved at the College

level but are unique to Departments within the College, consisting of at least 18 credit units, none of which are core courses taken by all students within the Department.

This option provides specialization in sciences/engineering courses that apply to traditional bio-processing industries such as food and beverage processing, enzyme production, biofuels and pharmaceuticals. Students wishing to complete this option must take BMSC 240.3 in year 2 of the program.

Required Biochemical Electives (18 credit units)

Please consult an academic advisor for assistance in choosing electives.

The Biochemical option courses can replace Group A and Group B Electives in the regular Chemical Engineering program. If a student successfully completes the option as listed above, the student will not have to take CHEM 231.3 and can substitute an option course.

18 credit units

- BMSC 200.3 (formerly BIOC 200.3)
- FABS 212.3
- BMSC 240.3
- BIOC 310.3
- CHE 454.3
- CHE 461.3

Engineering (B.E.) - Mineral Processing Option

An "Option" within the College of Engineering is a prescribed set of courses that provides a concentration of specialized training in one particular field of study. Options are approved at the College level but are unique to Departments within the College, consisting of at least 18 credit units, none of which are core courses taken by all students within the Department.

The Chemical and Biological Engineering Mineral Processing Option offers students the opportunity to take 6 courses within their Chemical engineering program that gives them a focus on the discipline of Mineral Processing. This option can replace Group A and Group B electives in the regular Chemical Engineering Program but will require students to take 6 CU above the regular Chemical Engineering Program.

Requirements (18 credit units)

Required Courses (15 credit units)

- GEOL 121.3 (replaces the Group A elective in Year 2)
- GEOL 224.3
- GEOE 377.3 (replaces the Group B elective in Year 3 or 4)
- CHE 369.3
- CHE 469.3 (replaces the Group B elective in Year 3 or 4)

Elective Courses (choose 3 credit units)

- CHE 454.3 (replaces the Group B elective in Year 3 or 4)
- CHE 453.3 (replaces the Group B elective in Year 3 or 4)

Engineering (B.E.) - Petroleum Option - Bachelor of Science

An "Option" within the College of Engineering is a prescribed set of courses that provides a concentration of specialized training in one particular field of study. Options are approved at the College level but are unique to Departments within the College, consisting of at least 18 credit units, none of which are core courses taken by all students within the Department.

This option provides students the opportunity to take courses within the chemical engineering program that give them a focus on petroleum engineering, oil/gas engineering and bitumen upgrading. Students wishing to complete this option must take CHEM 221.3 in year 2 of the program.

Required Petroleum Electives (21 credit units)

Please consult an Academic Advisor for assistance in choosing electives.

The Petroleum Option courses can replace Group A and Group B electives in the regular Chemical Engineering program.

Required Courses (12 credit units)

- CHEM 221.3
- CHEM 231.3
- CHE 364.3
- GEOL 108.3 or GEOL 121.3

Choose 9 credit units from the following:

- CHE 453.3
- CHE 460.3
- CHE 464.3
- GEOE 466.3

Elective Lists

Please consult an Academic Advisor. Some electives offered by other departments are given in alternate years.

Group A Elective List

Group A Elective

- BMSC 200.3 (formerly BIOC 200.3)

- BIOC 300.3
- BIOC 310.3
- CHE 364.3
- CHEM 255.3
- CHEM 322.3
- CHEM 344.3
- CHEM 375.3
- CHEM 377.3
- CMPT 117.3
- CMPT 215.3
- FABS 212.3
- ME 214.3
- ME 324.3
- BIOL 120.3 or GEOL 121.3

Group B Elective List

- CHE 320.3
- CHE 369.3
- CHE 453.3
- CHE 454.3
- CHE 460.3
- CHE 461.3
- CHE 464.3
- CHE 469.3
- GEOE 377.3
- GEOE 466.3
- Some Group B electives are offered in alternating years while others are offered annually. Consult with a faculty advisor to determine the availability of specific electives.

Complementary Studies Elective

Elective list

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses

- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3
- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3
- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3
- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3

- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3
- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3
- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3
- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 215.3
- PHIL 218.3
- PHIL 219.3
- PHIL 224.3
- PHIL 226.3
- PHIL 227.3
- PHIL 227.3
- PHIL 231.3
- PHIL 233.3
- PHIL 234.3
- PHIL 235.3
- PHIL 236.3
- PHIL 237.3
- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3

- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.

- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

Senior Humanities or Social Science Elective

Elective list

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Civil Engineering

Civil Engineering covers the broad areas of environmental, geotechnical, hydro-technical, structural, materials, and transportation engineering. The program is designed in such a way that students are exposed to basic civil engineering science during the second and third years of the program. During this time, the students are required to take courses that introduce the fundamental concepts in all of the program areas. In the final year, students have the opportunity to select electives that allow some degree of specialization. However, students are strongly encouraged to select electives that will provide

them with a broad-based technical background. Project/design courses are provided in two of the three upper years. These courses are designed to give students experience in solving open-ended problems and in working in partnership with industry.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Please consult an Academic Advisor for assistance in choosing electives.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Term 1

- CE 202.3
- CE 212.3
- GE 210.3
- GEOE 218.3
- MATH 223.3

If GEOL 121 is not taken as the science elective in Year 1, it must be taken in Term 1 of Year 2.

Term 2

- CE 225.3
- CE 295.3
- GE 213.3
- MATH 224.3
- CMPT 113.3

Term 1 or Term 2

- ~~CE 201.0~~
- RCM 300.3
- 3 credit units Science Elective List 1 or List 2

- ~~3 credit units 100-Level English~~

Term 3 (Spring)

- CE 271.2

Year 3 (36 credit units)

Term 1

- CE 311.3
- CE 315.3
- CE 317.3
- CE 318.3
- CE 328.3
- GE 348.3

Term 2

- CE 319.3
- CE 321.3
- CE 327.3
- CE 329.3
- CE 330.3
- 3 credit units Engineering or Science Elective

Year 4 (36 credit units)

Term 1

- CE 420.3

Term 2

- GE 449.3

Term 1 and Term 2

- CE 495.6

Term 1 or Term 2

- 15 credit units CE Elective courses (Groups A to E)
- 3 credit units CE Elective course (Groups A to F)
- 3 credit units Senior Humanities or Social Science Elective

- 3 credit units Open Elective

Electives

~~**100-level English**~~

- ~~100-Level ENG Courses~~

Science Elective

If GEOL 121.3 is not taken as the science elective in Year 1, it must be taken in Term 1 of Year 2.

List 1

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3
- PHYS 125.3

List 2

- ASTR 213.3
- ASTR 214.3
- CHEM 221.3
- CHEM 231.3
- CHEM 242.3
- CHEM 250.3
- EVSC 203.3
- EVSC 210.3
- GEOG 120.3
- GEOL 224.3
- GEOL 245.3
- GEOL 258.3

Engineering or Science Elective

- GEOG 240.3
- PLAN 341.3
- PLAN 342.3
- PLAN 346.3
- PLAN 350.3
- PLAN 442.3
- PLAN 446.3
- Group A to F Electives (see below)
- or any other Engineering or Science course, as per approval by the College

CE Elective Courses

CE electives are offered subject to minimum enrolment and staffing considerations. Electives must include courses from at least three of Groups A, B, C, D, or E:

Group A: Hydrotechnical

- CE 415.3
- CE 464.3

Group B: Environmental

- CE 414.3
- ~~CE 468.3~~
- ENVE 478.3
- ENVE 481.3

Group C: Geotechnical

- CE 466.3
- CE 468.3
- GEOE 475.3

Group D: Structures

- CE 418.3
- CE 463.3
- CE 470.3
- CE 474.3

Group E: Transportation

- CE 417.3
- CE 467.3

Group F: Related Electives

- CE 421.3
- GEOE 315.3
- GEOE 466.3
- PLAN 341.3
- PLAN 350.3

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Computer Engineering

The Computer Engineering program provides training in the software/hardware co-design of digital systems with an emphasis on embedded systems. The program shares courses with the Electrical Engineering Program that cover general electrical engineering, analog and digital electronics, signal processing, communications, and computers. Topics specific to Computer Engineering are studied in specialized focus areas in the third and fourth years.

Students must follow the program of study that was in place at the time of their entrance to the College of Engineering, recognizing that program and course changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Program Requirements

Engineering (B.E.) - Bachelor of Science

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis

Please consult an Academic Advisor for assistance in choosing electives.

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (34 credit units)

Term 1

- ~~CMPT 116.3~~
- CMPT 141.3
- EE 202.3
- EE 205.1
- EE 221.3
- EE 265.3
- MATH 223.3

Term 2

- ~~CMPT 117.3~~
- CMPT 145.3
- EE 216.3
- EE 232.3
- EE 271.3
- EP 214.3
- MATH 224.3

Year 3 (30 credit units)

Focus Areas – Students must complete the Digital Systems Focus Area and one of the Digital Signal Processing and Applications Focus Area or Computer Software Focus Area.

Term 1

- CME 331.3
- CME 341.3
- CMPT 214.3
- 3 credit units Digital Systems Focus Area

- 3 credit units Second Focus Area

Term 2

- GE 348.3
- RCM 300.3
- 3 credit units Digital Systems Focus Area
- 3 credit units Second Focus Area
- 3 credit units Science Elective List 1 or List 2

Year 4 (33 credit units)

Term 1

- 6 credit units Digital Systems Focus Area
- 6 credit units Second Focus Area
- 3 credit units Senior Humanities/Social Elective

Term 2

- GE 449.3
- 3 credit units Complementary Studies Elective
- 3 credit units Digital Systems Focus Area
- 3 credit units Second Focus Area

Term 1 & Term 2

- CME 495.6

Focus Areas

Focus Areas – Students must complete Digital Systems Focus Area and one of the Digital Signal Processing and Applications Focus Area or Computer Software Focus Area.

Digital Systems

Year 3 - term 1

- CME 342.3

Year 3 - term 2

- CME 332.3

Year 4 - term 1

- CME 433.3
- CME 435.3

Year 4 - term 2

- CME 451.3

Digital Signal Processing and Applications

Year 3 - term 1

- EE 362.3

Year 3 - term 2

- EE 365.3

Year 4 - term 1

- EE 456.3
- EE 461.3

Year 4 - term 1

- EE 465.3

Computer Software

Year 3 - term 1

- CMPT 270.3

Year 3 - term 2

- CMPT 280.3

Year 4 - term 1

- 6 credit units Group B Elective

Year 4 - term 2

- 3 credit units Group C Elective

Group B Electives

- CMPT 332.3
- CMPT 350.3
- CMPT 370.3

Group C Electives

- CMPT 432.3
- CMPT 434.3

Electives

Science Elective

List 1

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3
- PHYS 125.3

List 2

- ASTR 213.3
- ASTR 214.3
- CHEM 221.3
- CHEM 231.3
- CHEM 242.3
- CHEM 250.3
- EVSC 203.3
- EVSC 210.3
- GEOG 120.3
- GEOL 224.3
- GEOL 245.3
- GEOL 258.3

Complementary Studies Elective

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses

- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3
- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3
- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3

- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3
- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3
- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3
- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3
- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 215.3
- PHIL 218.3
- PHIL 219.3
- PHIL 224.3
- PHIL 226.3
- PHIL 227.3
- PHIL 227.3
- PHIL 231.3
- PHIL 233.3

- PHIL 234.3
- PHIL 235.3
- PHIL 236.3
- PHIL 237.3
- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3
- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.
- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

- ~~Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.~~
- ~~Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).~~ *(Note: Eliminate duplicated clause).*

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.

- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Electrical Engineering

The Electrical Engineering program provides a foundation for work in the fields of analog and digital electronics, microelectronics, signal processing, communications, power generation, transmission and distribution, electrical machines, computing systems, controls, and general electrical engineering applications. Topics specific to Electrical Engineering are studied in specialized focus areas in the third and fourth years.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Students that began the program prior to 2012 must check the previous calendars for program requirements. It is **strongly recommended** that students contact the Engineering Student Centre for appropriate courses for completion of the degree.

Please consult an Academic Advisor for assistance in choosing focus areas.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (34 credit units)

Term 1

- CMPT 116.3
- EE 202.3
- EE 205.1
- EE 221.3

- EE 265.3
- MATH 223.3

Term 2

- EE 216.3
- EE 232.3
- EE 241.3
- EE 271.3
- EP 214.3
- MATH 224.3

Year 3 (33 credit units)

Focus Areas – Students must complete two focus areas from Power and Energy; Digital Signal Processing and Applications; or Sensors, Circuits and Devices.

Term 1

- CME 331.3
- GE 348.3
- 6 credit units First Focus Area
- 6 credit units Second Focus Area

Term 2

- EE 382.3
- RCM 300.3
- 3 credit units First Focus Area
- 3 credit units Second Focus Area
- 3 credit units Science Elective List 1 or List 2

Year 4 (33 credit units)

Focus Areas – Students must complete two focus areas from Power and Energy; Digital Signal Processing and Applications; or Sensors, Circuits and Devices.

Term 1

- 6 credit units First Focus Area
- 6 credit units Second Focus Area
- 3 credit units Senior Humanities/Social Elective

Term 2

- GE 449.3
- 3 credit units Complementary Studies Elective

- 3 credit units First Focus Area
- 3 credit units Second Focus Area

Term 1 and Term 2

- EE 495.6

Focus Areas

Power and Energy

Year 3 - term 1

- EE 341.3
- EE 343.3

Year 3 - term 2

- EE 342.3

Year 4 - term 1

- EE 441.3
- EE 444.3

Year 4 - term 2

- EE 442.3

Digital Signal Processing and Applications

Year 3 - term 1

- EE 362.3
- CME 341.3

Year 3 - term 2

- EE 365.3

Year 4 - term 1

- EE 456.3
- EE 461.3

Year 4 - term 1

- EE 465.3

Sensors, Circuits and Devices

Year 3 - term 1

- EE 301.3
- EP 313.3

Year 3 - term 2

- EE 322.3

Year 4 - term 1

- EE 471.3
- EE 473.3

Year 4 - term 2

- EE 472.3

Electives

Science Elective

List 1

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3
- PHYS 125.3

List 2

- ASTR 213.3
- ASTR 214.3
- CHEM 221.3
- CHEM 231.3
- CHEM 242.3
- CHEM 250.3
- EVSC 203.3
- EVSC 210.3
- GEOG 120.3
- GEOL 224.3
- GEOL 245.3
- GEOL 258.3

Complementary Studies Elective

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3
- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3

- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3
- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3
- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3
- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3
- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3
- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 215.3
- PHIL 218.3
- PHIL 219.3
- PHIL 224.3
- PHIL 226.3
- PHIL 227.3
- PHIL 227.3

- PHIL 231.3
- PHIL 233.3
- PHIL 234.3
- PHIL 235.3
- PHIL 236.3
- PHIL 237.3
- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3
- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.
- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

- ~~Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.~~
- ~~Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).~~ *(Note: Eliminate duplicated clause).*

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.

- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Engineering Physics

Engineering Physics is a bridge between pure and applied science, utilizing fundamental concepts in today's rapidly changing and highly technical/engineering environment. The program emphasizes the solid foundations of modern scientific principles, mathematical rigour, technical know-how in designing, building and doing experiments, the knowledge essential for a successful professional career in science and technology. The program is recommended for students interested in newly developing areas of physics, modern technology, instrumentation, and experimentation. Graduates may proceed to a postgraduate degree in Physics and Engineering Physics or in other branches of engineering. There are also double degree programs in Engineering Physics/Computer Science and Engineering Physics/Mathematics which have proven to be very effective for the high technology job market and for graduate work.

Students must follow the program of study that was in place at the time of their entrance to the College of Engineering, recognizing that program and course changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Program Requirements

Engineering (B.E.) - Bachelor of Science

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Please consult an Academic Advisor for assistance in choosing electives.

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (37 credit units)

Term 1

- CMPT 116.3
- EE 202.3
- EE 221.3
- EP 253.1
- MATH 223.3
- PHYS 252.3
- RCM 300.3

Term 2

- EP 214.3
- EP 228.3
- EE 232.3
- MATH 224.3
- PHYS 223.3
- STAT 241.3

Year 3 (40 credit units)

Term 1

- EP 313.3
- EP 353.2
- EP 370.3
- PHYS 356.3
- PHYS 383.3
- MATH 331.3
- 3 credit units of Engineering Physics Requirements

Term 2

- EP 317.3
- EP 320.3
- EP 325.3
- EP 354.2
- PHYS 323.3
- PHYS 371.3
- 3 credit units of Engineering Physics Requirements

Year 4 (36 credit units)

Term 1

- EP 413.3
- EP 417.3
- EP 421.3
- GE 348.3
- PHYS 456.3
- 3 credit units of Engineering Physics Requirements

Term 2

- GE 449.3
- 9 credit units of Engineering Physics Requirements

Term 1 and Term 2

- EP 495.6
- PHYS 490.0

Engineering Physics Requirements

Engineering Science or Engineering Design List

6 credit units from the following list, at least 3 credit units must be 400 level.

- EP 428.3
- EP 440.3
- CME 331.3
- CME 341.3
- CME 342.3
- EE 241.3
- EE 322.3
- EE 341.3
- EE 342.3
- EE 343.3
- EE 442.3
- EE 471.3
- EE 472.3
- GE 213.3
- GEOE 377.3
- CE 317.3
- ENVE 201.3
- PHYS 404.3
- Or any other approved elective

Senior Science Requirement

6 credit units from the Engineering Science or Engineering Design list, or CMPT, CHEM, GEOL courses at 200 level or higher, or PHYS, ASTR, MATH, STAT courses at 300 level or higher, or any other approved elective. At least 3 credit units must be at 400 level.

Complementary Studies Elective

3 credit units

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3

- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3
- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3
- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3
- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3
- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3
- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3

- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
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- PHIL 215.3
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- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3
- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.
- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

- ~~Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.~~
- ~~Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).~~ *(Note: Eliminate duplicated clause).*

Senior Humanities or Social Science Elective

3 credit units

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Environmental Engineering

Environmental engineers develop solutions to environmental problems using the principles of biology, physics, and chemistry. They are involved in water and air pollution control, recycling, waste disposal, and public health issues. Environmental engineers conduct hazardous-waste management studies, advise on waste treatment and containment, and develop regulations for environmental protection. They design municipal water supply and industrial wastewater treatment systems. They conduct research on the environmental impact of proposed construction projects, analyze scientific data, and perform quality-control checks. Environmental engineers are concerned with local and worldwide environmental issues. They are increasingly involved in the protection of wildlife. Many environmental engineers work as consultants, helping their clients to comply with regulations and to clean up hazardous sites.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Term 1

- CE 212.3
- ENVE 201.3
- GE 210.3
- GEOE 218.3
- MATH 223.3

Term 2

- CHE 210.3
- CMPT 113.3
- ENVE 212.3
- GE 213.3
- MATH 224.3

Term 3

- CE 271.2 (may be completed in year 2 or year 3)

Term 1 or Term 2

- CE 201.0 (may be completed in year 2 or year 3)

Choose 6 credit units from the following:

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3

Students must complete BIOL 120, CHEM 115 and GEOL 121 by the end of Year 2.

Year 3 (36 credit units)

Term 1

- CE 315.3

- CE 318.3
- CE 328.3
- CHEM 250.3
- EE 204.3
- 3 credit units Complementary Studies Elective

Term 2

- BLE 313.3
- CE 319.3
- CE 327.3
- CHE 223.3
- GE 348.3
- RCM 300.3

Year 4 (36 credit units)

Term 1

- CE 420.3

Term 2

- CE 468.3
- CHE 454.3
- TOX 301.3 or EVSC 421.3

Term 1 and Term 2

- ENVE 495.6

Term 1 or Term 2

- GE 449.3
- 9 credit units Environmental Engineering Electives
- 3 credit units Environmental Science Elective
- 3 credit units Senior Humanities or Social Science Elective

Electives

Science Elective

All Science Electives must be taken in year 1 and year 2.

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3

Environmental Science Elective

- BMSC 240.3
- CHEM 221.3
- ENVE 212.3
- EVSC 420.3
- EVSC 421.3
- FABS 212.3
- GEOL 413.3

Environmental Engineering Elective

- CHE 461.3
- CE 414.3
- CE 464.3
- ENVE 432.3
- ENVE 478.3
- ENVE 481.3
- GEOE 475.3
- other approved Engineering elective

Complementary Studies Elective

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses
- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses

- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3
- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3
- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3
- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3
- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3
- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3

- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3
- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 215.3
- PHIL 218.3
- PHIL 219.3
- PHIL 224.3
- PHIL 226.3
- PHIL 227.3
- PHIL 227.3
- PHIL 231.3
- PHIL 233.3
- PHIL 234.3
- PHIL 235.3
- PHIL 236.3
- PHIL 237.3
- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3
- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.
- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

- ~~Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.~~
- ~~Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).~~ *(Note: Eliminate duplicated clause).*

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Bachelor of Science in Engineering – Geological Engineering

Geological Engineering is designed for those persons interested in the exploration, development and recovery of subsurface resources, subsurface waste disposal, assessment and protection of groundwater resources and the design and development of stable foundations for civil structures such as buildings, bridges, highways and dams. A broad background in aspects of geotechnical, mining, and petroleum engineering is provided. Some degree of specialization in each of these areas is possible in the selection of upper year course.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Term 1

- CE 202.3
- CE 212.3
- GE 210.3
- ~~CMPT 113.3~~
- GEOE 218.3
- MATH 223.3

If GEOL 121 is not taken as the science elective in Year 1, it must be taken in Term 1 of Year 2.

Term 2

- CE 225.3
- CE 295.3
- GE 213.
- MATH 224.3
- CMPT 113.3

Term 1 or Term 2

- RCM 300.3
- CE 201.0
- ~~3 credit units 100-level English~~
- 3 credit units Senior Humanities or Social Science Elective

Term 3

- CE 271.2

Year 3 (39 credit units)

Term 1

- CE 318.3
- CE 328.3
- GEOL 224.3

- GEOL 245.3
- GEOL 258.3

Term 2

- CE 319.3
- CE 330.3
- GEOE 315.3
- GEOL 226.3
- 3 credit units Group B Elective

Term 1 or Term 2

- GE 348.3
- 3 credit units Group A Elective

Term 3

- GEOE 378.3

Year 4 (36 credit units)

Term 1

- CE 420.3
- GE 449.3
- GEOE 412.3
- GEOE 414.3

Term 2

- GEOE 475.3
- GEOE 466.3

Term 1 and Term 2

- GEOE 495.6

Term 1 or Term 2

- 3 credit units Group A or C Elective
- 9 credit units Group C Elective

Electives

Note: All electives may not be given every year. Check with the appropriate department or in the online Course Offerings.

Group Electives

Group A

- CHEM 377.3
- GEOG 335.3
- GEOL 229.3
- GEOL 282.3
- GEOL 334.3
- GEOL 335.3
- GEOL 358.3
- GEOL 411.3
- GEOL 413.3
- GEOL 463.3
- GEOL 465.3
- GEOL 482.3
- GEOL 483.3

Group B

- GEOL 334.3
- GEOL 335.3
- GEOL 384.3

Group C

- CE 466.3
- CE 468.3
- CHE 464.3
- ENVE 478.3
- ENVE 481.3
- GEOE 377.3
- GEOE 380.3

~~**100-level English**~~

- ~~100-Level ENG Courses~~

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses
- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses

- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

- ~~Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.~~
- ~~Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.~~
- ~~Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.~~
- ~~Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.~~
- ~~The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.~~ *(Note: Remove Duplication)*

Engineering (B.E.) - Geological Engineering Mining Engineering Option

An "Option" within the College of Engineering is a prescribed set of courses that provides a concentration of specialized training in one particular field of study. Options are approved at the College level but are unique to Departments within the College, consisting of at least 18 credit units, none of which are core courses taken by all students within the Department.

This option equips Geological Engineering students with a foundational knowledge of mining operations. Curricular emphasis is placed on process engineering, mine design, excavation techniques, and mineral deposits. Graduates of this option are anticipated to have an interest in the mining operations and are likely to pursue careers in the associated industry.

Requirements (18 credit units)

Required Courses (18 credit units)

- GEOE 377.3 (replaces a Group C elective)
- GEOE 380.3 (replaces a Group C elective)
- GEOE 430.3 (replaces a Group C elective)
- GEOE 431.3 (replaces a Group C elective)
- GEOL 384.3 or GEOL 334.3 (replaces a Group B elective)
- GEOL 465.3 (replaces a Group A elective)

Bachelor of Science in Engineering – Mechanical Engineering

Mechanical Engineering provides the student with fundamental training in the areas of statics, dynamics, and mechanics of materials; thermodynamics and fluid dynamics; material properties and metallurgy; analysis and synthesis of mechanical systems; and mechatronics and controls. Practical applications and advanced engineering design are introduced.

All undergraduate students within the College of Engineering are required to complete a first-year common core. Students that secure admission to a specific upper-year discipline must follow the program of study that was in place at the time of their admission to an upper-year academic discipline, recognizing that course and program changes may result in modification to the original program of study. It is recommended that students contact the Engineering Student Centre to confirm their program of study on a regular basis.

Please consult an Academic Advisor for assistance in choosing electives.

Program Requirements

Engineering (B.E.) - Bachelor of Science

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (36 credit units)

Term 1

- CMPT 141.3
- ~~CMPT 116.3~~
- EE 204.3
- GE 213.3
- MATH 223.3
- ME 214.3
- ME 227.3

Term 2

- ME 226.3
- ~~GE 226.3~~

- MATH 224.3
- ME 215.3
- ME 229.3
- ME 251.3
- RCM 300.3

Year 3 (42 credit units)

Term 1

- ME 313.3
- ~~ME 316.3~~
- ME 318.3
- ME 321.3
- ME 324.3
- ME 327.3
- ME 330.3

Term 2

- ME 314.3
- ME 323.3
- ME 328.3
- ME 329.3
- ~~ME 330.3~~
- ME 335.3
- ME 352.3

Term 1 or Term 2

- GE 348.3
- 3 credit units Science Elective List 1 or List 2

Year 4 (39 credit units)

Term 1

- ME 417.3
- ME 418.3
- ME 431.3
- ME 450.3

Term 2

- GE 449.3

Term 1 and Term 2

- ME 495.6

Term 1 or Term 2

- 12 credit units Technical and Design Electives (of which 6 credit units must be from the design elective list)
- 3 credit units Senior Humanities or Social Science Elective
- 3 credit units Complementary Studies Elective

Electives

Science Elective

List 1

- BIOL 120.3
- CHEM 115.3
- GEOL 121.3
- PHYS 125.3

List 2

- ASTR 213.3
- ASTR 214.3
- CHEM 221.3
- CHEM 231.3
- CHEM 242.3
- CHEM 250.3
- EVSC 203.3
- EVSC 210.3
- GEOG 120.3
- GEOL 224.3
- GEOL 245.3
- GEOL 258.3

Technical Electives

Department Technical electives are offered in alternating calendar years, subject to minimum enrolment limits and staffing considerations. Consult the current Course Offerings to determine the availability of specific electives.

Term 1

- GEOE 466.3
- GEOE 377.3

Term 2

- BLE 313.3
- CHE 464.3
- EE 471.3
- GEOE 380.3
- ME 460.3
- ME 461.3
- ME 462.3
- ME 463.3
- ME 471.3
- ME 472.3
- ME 475.3
- ME 476.3
- ME 477.3
- ME 478.3

Term 1 or Term 2

- approved senior course(s) from science or engineering
- CHE 453.3
- ME 473.3

Design Electives

Design electives are offered subject to minimum enrolment limits and staffing considerations. Consult the current Course Offerings to determine the availability of specific electives. Students must take a minimum of 6 credit units from the list of Design Electives.

Term 1

- ME 491.3

Term 2

- ME 490.3
- ME 492.3
- ME 493.3
- ME 497.3

Term 1 and Term 2

- ME 494.3
- ~~BLE 475.3~~

Senior Humanities or Social Science Elective

- 200-Level, 300-Level or 400-Level ANTH Courses
- 200-Level, 300-Level or 400-Level ARCH Courses

- 200-Level, 300-Level or 400-Level CLAS Courses
- 200-Level, 300-Level or 400-Level ECON Courses
- 200-Level, 300-Level or 400-Level ENG Courses
- 200-Level, 300-Level or 400-Level GEOG Courses
- 200-Level, 300-Level or 400-Level HIST Courses
- 200-Level, 300-Level or 400-Level INDG Courses
- 200-Level, 300-Level or 400-Level PHIL Courses
- 200-Level, 300-Level or 400-Level POLS Courses
- 200-Level, 300-Level or 400-Level PSY Courses
- 200-Level, 300-Level or 400-Level RLST Courses
- 200-Level, 300-Level or 400-Level SOC Courses
- 200-Level, 300-Level or 400-Level WGST Courses

- Exception: ECON 204.6 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PSY 233.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- Exception: PHIL 241.3 cannot be used to meet the Senior Humanities or Social Science elective requirements of the program.
- Exception: SOC 225.3 cannot be used to meet the Complementary Studies, Senior Humanities or Social Science elective requirements of the program.
- The following Engineering courses will also satisfy the Humanities/Social Science elective requirement: RCM 400.3, RCM 401.3, RCM 402.3, RCM 403.3, RCM 404.3, RCM 405.3, RCM 406.3 RCM 407.3, RCM 408.3, RCM 409.3, and RCM 495.3.

Complementary Studies Elective

- 100-Level, 200-Level, 300-Level or 400-Level ANTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARCH Courses
- 100-Level, 200-Level, 300-Level or 400-Level ARTH Courses
- 100-Level, 200-Level, 300-Level or 400-Level CHIN Courses
- 100-Level, 200-Level, 300-Level or 400-Level CLAS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CMRS Courses
- 100-Level, 200-Level, 300-Level or 400-Level CREE Courses
- 100-Level, 200-Level, 300-Level or 400-Level ENG Courses
- 100-Level, 200-Level, 300-Level or 400-Level FREN Courses
- 100-Level, 200-Level, 300-Level or 400-Level GEOG Courses
- 100-Level, 200-Level, 300-Level or 400-Level GERM Courses
- 100-Level, 200-Level, 300-Level or 400-Level GRK Courses
- 100-Level, 200-Level, 300-Level or 400-Level HEB Courses
- 100-Level, 200-Level, 300-Level or 400-Level HIST Courses
- 100-Level, 200-Level, 300-Level or 400-Level HNDI Courses
- 100-Level, 200-Level, 300-Level or 400-Level INDG Courses
- 100-Level, 200-Level, 300-Level or 400-Level JPNS Courses
- 100-Level, 200-Level, 300-Level or 400-Level LATN Courses
- 100-Level, 200-Level, 300-Level or 400-Level LING Courses
- 100-Level, 200-Level, 300-Level or 400-Level LIT Courses
- 100-Level, 200-Level, 300-Level or 400-Level POLS Courses

- 100-Level, 200-Level, 300-Level or 400-Level PSY Courses
- 400-Level RCM Courses
- 100-Level, 200-Level, 300-Level or 400-Level RLST Courses
- 100-Level, 200-Level, 300-Level or 400-Level RUSS Courses
- 100-Level, 200-Level, 300-Level or 400-Level SNSK Courses
- 100-Level, 200-Level, 300-Level or 400-Level SOC Courses
- 100-Level, 200-Level, 300-Level or 400-Level SPAN Courses
- 100-Level, 200-Level, 300-Level or 400-Level UKR Courses
- 100-Level, 200-Level, 300-Level or 400-Level WGST Courses
- COMM Select 100, 200, 300, or 400 Level
- COMM 201.3
- COMM 203.3
- COMM 204.3
- COMM 205.3
- COMM 210.3
- COMM 211.3
- COMM 300.3
- COMM 304.3
- COMM 306.3
- COMM 308.3
- COMM 321.3
- COMM 323.3
- COMM 329.3
- COMM 337.3
- COMM 340.3
- COMM 342.3
- COMM 343.3
- COMM 345.3
- COMM 346.3
- COMM 347.3
- COMM 348.3
- COMM 349.3
- COMM 352.3
- COMM 354.3
- COMM 357.3
- ECON Select 100, 200, 300, or 400 Level
- ECON 111.3
- ECON 114.3
- ECON 211.3
- ECON 213.3
- ECON 214.3
- ECON 221.3
- ECON 223.3
- ECON 227.3
- ECON 231.3
- ECON 234.3
- ECON 254.3
- ECON 256.3

- ECON 270.3
- ECON 272.3
- ECON 275.3
- ECON 277.3
- ECON 280.3
- ECON 285.3
- PHIL Select 100, 200, 300, or 400 Level
- PHIL 120.3
- PHIL 133.3
- PHIL 140.3
- PHIL 202.3
- PHIL 204.3
- PHIL 206.3
- PHIL 208.3
- PHIL 209.3
- PHIL 210.3
- PHIL 211.3
- PHIL 212.3
- PHIL 215.3
- PHIL 218.3
- PHIL 219.3
- PHIL 224.3
- PHIL 226.3
- PHIL 227.3
- PHIL 227.3
- PHIL 231.3
- PHIL 233.3
- PHIL 234.3
- PHIL 235.3
- PHIL 236.3
- PHIL 237.3
- PHIL 238.3
- PHIL 240.3
- PHIL 251.3
- PHIL 262.3
- PHIL 265.3
- PHIL 271.3
- PHIL 281.3
- PHIL 285.3
- PHIL 292.3
- PHIL 294.3
- PHIL 296.3

- Exception: CLAS 104.3 cannot be used to meet the Complementary Studies Elective Requirements of the program.
- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

Engineering (B.E.) - Mechanical Engineering Mining Option

An "Option" within the College of Engineering is a prescribed set of courses that provides a concentration of specialized training in one particular field of study. Options are approved at the College level but are unique to Departments within the College, consisting of at least 18 credit units, none of which are core courses taken by all students within the Department.

The Mining Option in Mechanical Engineering offers students the opportunity to take six courses, plus complete a mandatory twelve-month internship, within their Mechanical Engineering program, that gives them a focus on topics of relevance to the mining industry.

Requirements (18 credit units)

Required Courses (9 credit units)

- GEOL 121.3 (replaces the Science Elective in Year 1)
- GEOE 377.3 (replaces one of the Technical Electives in Year 4)
- ME 490.3 (replaces one of the Design Electives in Year 4)
- EPIP 401.0
- EPIP 402.0
- EPIP 403.0

Elective Courses (9 credit units)

3 credit units from Elective Pool A (replaces the Science Elective in Year 3)

- GEOL 224.3
- GEOL 245.3
- GEOL 258.3

3 credit units from Elective Pool B (replaces the other Technical Elective in Year 4)

- GEOE 315.3
- GEOE 380.3
- CHE 453.3

3 credit units from Elective Pool C (replaces the other Design Elective in Year 4)

- ME 491.3
- ME 492.3
- ME 493.3
- ME 497.3

College of Graduate Studies and Research (CGSR)
The curricular changes listed below have been approved through CGSR governance and are submitted to the University Course Challenge.

University Course Challenge – December 2015

Program Modifications

Educational Technology and Design

Master of Education (M.Ed.) - Thesis

Degree Requirements

Students must maintain continuous registration in the 994 course.
GSR 960.0
GSR 961.0 if research involves human subjects
GSR 962.0 if research involves animal subjects

a minimum 21 credit units, including:

Currently:	Proposed:
ECUR 809.3	~~ECUR 809.3~~
ECUR 990.0	ECUR 990.0
ERES 800.3	ERES 800.3
ETAD 802.6	ETAD 802.6
ETAD 803.3	~~ETAD 803.3~~
ETAD 804.3	~~ETAD 804.3~~
ETAD 873.3	ETAD 873.3
ETAD 994.0	ETAD 994.0
	A minimum of 9 cu of approved electives; 3 cu must be from ETAD or ECUR in the Department of Curriculum Studies

Contact: Kelly Clement (Kelly.clement@usask.ca)

Master of Education (M.Ed.) - Project-Based

Degree Requirements

Students must maintain continuous registration in the 9924 course.
GSR 960.0
GSR 961.0 if research involves human subjects
GSR 962.0 if research involves animal subjects

A minimum 24 credit units, including:

Currently:	Proposed:
ECUR 809.3	~~ECUR 809.3~~
ECUR 990.0	ECUR 990.0
ERES 800.3	ERES 800.3
ETAD 802.6	ETAD 802.6
ETAD 803.3	~~ETAD 803.3~~
ETAD 804.3	~~ETAD 804.3~~
ETAD 873.3	ETAD 873.3
ETAD 992.0	ETAD 992.0
A minimum of 3 credit units, as approved by the department from: ECUR 805.3 ECUR 810.3 ECUR 898.3 ECUR 899.6 ETAD 874.3 ETAD 877.3 ETAD 879.6 ETAD 898.3 ETAD 899.6	A minimum of 12 cu of approved electives; 6 cu must be from ETAD or ECUR in the Department of Curriculum Studies

Contact: Kelly Clement (Kelly.clement@usask.ca)

Master of Education (M.Ed.) - Course-Based

Degree Requirements
Students must maintain continuous registration, either in a credit course or a tuition-bearing maintenance of status.
GSR 960.0
GSR 961.0 if research involves human subjects
GSR 962.0 if research involves animal subjects

a minimum 30 credit units, including:

Currently:	Proposed:
ECUR 809.3	~~ECUR 809.3~~
ECUR 990.0	ECUR 990.0
ERES 800.3	ERES 800.3
ETAD 802.6	ETAD 802.6
ETAD 803.3	~~ETAD 803.3~~
ETAD 804.3	~~ETAD 804.3~~
ETAD 873.3	ETAD 873.3
ETAD 991.3	ETAD 991.3
A minimum of 6 credit units, as approved by the department from: ECUR 805.3 ECUR 810.3 ECUR 898.3 ECUR 899.6 ETAD 874.3 ETAD 877.3 ETAD 879.6 ETAD 898.3 ETAD 899.6	A minimum of 15 cu of approved electives; 9 cu must be from ETAD or ECUR in the Department of Curriculum Studies

Contact: Kelly Clement (Kelly.clement@usask.ca)

Rationale for Educational Technology and Design program changes

To allow more flexibility in elective course offerings so that students may be involved in tailoring their programs to fit their research and/or professional goals. In summary, the proposed changes include moving 3 of the required courses to the group of open electives, and providing an option for up to 6 credit units of coursework to be completed in a cognate department or at another institution through transfer credit.

Political Studies Project-based MA

Degree Requirements

Students must maintain continuous registration in POLS 992.0

- A minimum of ~~24~~ 18 credit units:
- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- Select 9 credit units from the following list:
    - POLS 815.3
    - POLS 819.3
    - POLS 809.3
    - POLS 839.3
    - POLS 849.3
    - POLS 869.3

- ~~15~~ 9 credit units of electives chosen from the Department of Political Studies or cognate departments and selected with the approval of the Graduate Chair
- POLS 990.0
- POLS 992.0

Rationale for Political Studies project-based MA modification

Alignment with program design of comparator institutions; competitiveness in student recruitment; improve student performance; facilitate timely completion

Nutrition

Master of Science Degree Requirements

Students must maintain continuous registration in NUTR 994.0.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- a minimum of ~~12~~ 9 credit units, including:

Contact: Kelly Clement (Kelly.clement@usask.ca)

    - NUTR 810.3 or NUTR 811.3 based on relevance to the research project
- NUTR 994.0
- NUTR 990.0

- M.Sc. thesis defence

Transfer from a Master's to a PhD requirements

Students must maintain continuous registration in NUTR 996.0 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- ~~18~~ 15 credit units, including:
    - NUTR 810.3 or NUTR 811.3 based on relevance to the research project
- NUTR 990.0
- NUTR 996.0

- thesis defence
- qualifying exam
- comprehensive examination

New Concentration in Existing Program

Master of Science (M.Sc.) in Veterinary Pathology - new Diagnostic Pathology concentration

Admission Requirements

- Doctor of Veterinary Medicine (D.V.M.) or equivalent, from a recognized college or university
- a cumulative weighted average of at least a 70% (U of S grade system equivalent) in the last two years of study (i.e. 60 credit units)
- Language Proficiency Requirements: Proof of English proficiency may be required for international applicants and for applicants whose first language is not English. See the College of Graduate Studies and Research Academic Information and Policies in this Catalogue for more information

Degree Requirements

Students must maintain continuous registration in the 994 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects

Contact: Kelly Clement (Kelly.clement@usask.ca)

- minimum of 18 credit units plus:
    - VTPA 990.0
    - VTPA 991.0
    - VTPA 994.0

Academic justification for introducing new concentration

The advantage of this new concentration in the Veterinary Pathology Master of Science program is threefold. This new program will fulfill the prerequisite for the *ACVP certification, improve research intensity of the faculty and the department and provide an alternate option for those wanting a more inclusive degree with a widely recognized credential.

For Information

Course Modifications

PTH 808.3 — M1(2.5L-.5P)(12 weeks)
Lifespan I Development Aging and Pharmacological Issues across the Lifespan

~~Will examine theories of human development, the physiology of aging and physical therapy management of older adults. Students will also be introduced to general principles of pharmacology and classes of drugs affecting body systems, and an overview of the interaction between nutrition and illness across the lifespan.~~Introduces the student to content and issues that are important to consider when developing and implementing a physical therapy management plan for individuals across the lifespan. Topics include: Physical, cognitive, social, emotional and communication development, principles of pharmacology and specific drug classes, nutrition, normal and pathological changes that occur with aging, and end-of-life care.

PTH 829.3 — M7(2.5L-.5P)(6 weeks)
Lifespan II Pediatrics Obstetrics and Gynecology

This course ~~W~~will examine components of physical therapy practice across the lifespan, focusing on paediatrics, obstetrics, and incontinence. Topics include the pathophysiology and physical therapy management of common, multi-system conditions in children; normal pregnancy and foetal development, common musculoskeletal complaints and complications during pregnancy and the physical therapy management of each, and entry to practice-level physical therapy management of incontinence. ~~The pediatric component will focus on assessment and treatment of cerebral palsy and muscular dystrophy. The component on obstetrics and gynecology will focus on physical therapy for the pregnant client and for female incontinence.~~

Contact: Kelly Clement (Kelly.clement@usask.ca)

NURS 880.3 — SP&SU(40P)
Practicum I Advanced Nursing Practice in Primary Health Care

The student will provide direct care in selected primary health care settings. Students will have the opportunity to demonstrate primary health care skills and advanced practice clinical judgment. Scholarly activities in this clinical practicum will be designed so that the student will gain experience in consultation, education, integration of theory, research and clinical knowledge related to the goals of multidisciplinary health services and systems.

Prerequisite(s): NURS 879, NURS 881, NURS 883, NURS 870, NURS 885, NURS 886, NURS ~~891~~ 892 and a three-credit unit 800-level Statistics course.
Note: Students with credit for NURS 887.3 or NURS 877.6 will not receive credit for this course. The current course was labeled NURS 887.3 until 201205 and was labeled NURS 877.6 until 201309.

NURS 879.3 — 2(2S-1P)
Advanced Diagnostic Reasoning

Building on Advanced Health Assessment, this course develops the students' knowledge of diagnostic reasoning for clinical practice. Using the assessment process students will develop and understanding of diagnostic test and procedures that will address the investigation of common medical conditions across the life span.

Prerequisite(s): ~~NURS 881.3, NURS 883.3, NURS 884.3~~NURS 870.3

Contact: Kelly Clement (Kelly.clement@usask.ca)

College of Medicine – December, 2015 University Course Challenge

The following curricular changes have been approved by the college and are now being submitted to University Course Challenge for approval:

New Course Proposal:

MEDC 309.8 Selective Clinical Rotations

> This 6 week course is designed to allow medical students to further pursue their own interests from among a selected list of areas within 4 weeks of internal medicine and 2 weeks of surgery. The two Selective opportunities area available throughout Year 3 as part of the rotation schedule.

Rationale: This has always been a required component of the M.D. program; however, it was not acknowledged in the Replacement M.D. Program approved by University Council on November 21, 2013. It is now being acknowledged as a required course.

Program requirements will be adjusted as follows:

Doctor of Medicine (M.D.) (~~264~~ 248 credit units)

Requirements

First Year Pre-Clerkship (33 weeks)

- MEDC 100.0 (optional)
- MEDC 101.0
- MEDC 111.0
- MEDC 112.3
- MEDC 113.8
- MEDC 114.4
- MEDC 115.18
- MEDC 122.3
- MEDC 123.8
- MEDC 124.4
- MEDC 126.18

Second Year Pre-Clerkship (33 weeks)

- MEDC 200.0 (optional)
- MEDC 211.0
- MEDC 212.3
- MEDC 213.8
- MEDC 214.4
- MEDC 216.18
- MEDC 222.3

- MEDC 223.8
- MEDC 224.4
- MEDC 226.18

Third Year Clerkship (Core Rotations) (52 weeks)

- MEDC 307.50
- MEDC 308.16
- MEDC 309.8
- MEDC 311.0

Fourth Year Clerkship (Electives and Capstone Course) (33 weeks)

- MEDC 407.~~38~~34
- ~~MEDC 408.20~~
- MEDC 409.8

Certificate in Global Health

Requirements

~~A first year course in second language training through the University of Saskatchewan or an appropriate accredited language learning center, or evidence of proficiency in a second language relevant to the country of the international practicum. This is a zero-credit unit program requirement.~~

Courses (15 credit units)

- An inner-city practicum: CHEP 410.3
- A northern practicum: CHEP 411.3
- An international practicum: CHEP 415.3
- CHEP 402.3
- CHEP 403.3

Suggested Sequence of Courses

Year 1

- CHEP 402.3
- CHEP 410.3
- CHEP 411.3

Year 2

Training through appropriate accredited language learning centre or evidence of proficiency in the main language of the international practicum.

- CHEP 403.3
- CHEP 410.3
- CHEP 415.3

~~Year 3-4~~

- ~~CHEP 410.3~~

Rationale: This language training was intended as a recommendation, but was approved as a requirement. We are now adjusting the Catalogue to document this.

College of Nursing – December 2015 University Course Challenge

The following curricular revision was approved by the College of Nursing Faculty Council on December 1, 2015 and is now submitted to the University Course Challenge for review and approval:

Course Revision:

NURS 205.3 — 2(3L)
Research for Evidence Informed Practice

Emphasis will be on critical appraisal, translation, and uptake of existing research as a basis for evidence-informed practice. Introduces students to research concepts, methodologies, and issues in research and health care.

Prerequisite(s): ~~A course in Statistics.~~ STAT 244 or STAT 245 or STAT 246 or PLSC 214 or (COMM 104 and COMM 207) or (PSY 233 and PSY 234) or ECON 204 or GEOG 302 or (SOC 225 and SOC 325) or (PSY 233 and COMM 207). Statistics courses from other post-secondary institutions may also be acceptable. Please see the College of Nursing for information.

Rationale: The College has approved a list of statistics courses that will prepare students for NURS 205. They are being added to the Catalogue for clarity.

Bachelor of Science in Nursing (B.S.N.)

Bachelor of Science in Nursing (B.S.N.) (132 credit units)

Pre-Professional Year 1 (30 credit units)

……

Register for the following courses (or their equivalents) (21 credit units):

- 3 credit units of English: ENG 110.6 or ENG 111.3 or ENG 112.3 or ENG 113.3 or ENG 114.3 or equivalent
- 3 credit units of Indigenous Studies: INDG 100-400 level or equivalent or the University of the Arctic Courses BCS 321.3 or BCS 322.3 or equivalent
- 3 credit units of Psychology: PSY 121.3 (PSY 100.3 or PSY 110.6) or equivalent
- CHEM 112.3 or equivalent
- BIOL 120.3 or equivalent
- STAT 244.3 or equivalent. Choose from: STAT 244.3; STAT 245.3; STAT 246.3; PLSC 214.3; COMM 104.3 + COMM 207.3; PSY 233.3 + PSY 234.3; ECON 204.6; GEOG 302.3; SOC 225.3 + SOC 325.3; PSY 233.3 + COMM 207.3
- NUTR 120.3 or equivalent *pre-existing Nutrition credit must have been obtained within the past 10 years

Program Modification:

B.S.N. and PDBSN

The College of Nursing accepts the following courses toward the restricted electives requirement in the BSN and PDBSN program:

Nursing Year 4 (30 credit units)

- NURS 422.3
- NURS 430.3
- NURS 431.6*
- NURS 440.3
- NURS 441.3
- Nursing elective (3 credit units). Students will choose one of the eligible nursing electives from the Restricted Electives List below, or other courses with approval from the College of Nursing.
- NURS 450.9*
- *Students are expected to have at least one clinical experience outside of the city in which they study.

Restricted Electives List:

Course	Title
NURS 476.3	Health and Aging
NURS 478.3	Rural Nursing
NURS 483.3	Cultural Diversity and Aboriginal Health
NURS 486.3	Forensic Nursing in Secure Environments
GERO 301.3	Interprofessional Perspectives on Aging
PHIL 234.3	Biomedical Ethics
CHEP 403.3	Global Health II
SOC 238.3	Sociology of Health Illness & Health Care
SOC 235.3	Sociology of Aging
PSY 207.3	Psychology of Death & Dying
POLS 222.3	Aboriginal Governance Politics
POLS 262.3	Introduction to Global Governance
GEOG 204.3	Geography of Prairie Region
KIN 232.3	Physical Activity in Society
KIN 424.3	Aging and Activity
KIN 426.3	Health Aspects of Physical Activity and Physical Fitness
WGST 201.3	Images of Gender and Sexuality in Popular Culture
WGST 210.3	Gendered Perspectives on Current Events

Western College of Veterinary Medicine – University Course Challenge, December, 2015

The following curricular revisions have been approved by the college and are being submitted to University Course Challenge for approval.

New Course Proposals:

VINT 205.0
WCVM Year 1- Clinical Competency Assessment

This non-credit course will provide opportunities for self-directed clinical experiences focused on helping DVM students consolidate and integrate their learning throughout their first year of study. This course also provides for a comprehensive assessment of all the identified year 1 clinical competencies.

Restriction(s): Admitted to Year 1 of the Doctor of Veterinary Medicine program.

VINT 305.0

WCVM Year 2- Clinical Competency Assessment

This non-credit course will provide opportunities for self-directed clinical experiences focused on helping DVM students consolidate and integrate their learning throughout their second year of study. This course provides for a comprehensive assessment of all the identified year 2 clinical competencies.

Restriction(s): Successful completion of Year 1 of the Doctor of Veterinary Medicine program.

VINT 405.0
WCVM Year 3- Clinical Competency Assessment

This non-credit course will provide opportunities for self-directed clinical experiences focused on helping DVM students consolidate and integrate their learning throughout their third year of study. This course provides for a comprehensive assessment of all the identified year 3 clinical competencies.

Restriction(s): Successful completion of Year 2 of the Doctor of Veterinary Medicine program.

Rationale: These competencies have always been discussed in each of our existing courses; however, there hasn't been an incentive to learn the competencies, as they have not been assessed. Furthermore, assessment of competencies is an increasingly important aspect of our accreditation as a veterinary college. The need for these courses was identified as part of our comprehensive curriculum review.

The new courses will insert into the program, as follows:

Doctor of Veterinary Medicine (D.V.M.)

Doctor of Veterinary Medicine (D.V.M.) (~~165~~ ~~162~~ credit units)

Year 1
41 credit units

- VBMS 202.4
- VBMS 208.1
- VBMS 220.8
- VBMS 222.3
- VBMS 223.2
- VBMS 224.9
- VBMS 231.4
- VINT 205.0
- VINT 210.1
- VINT 211.1
- VLAC 211.3
- VSAC 205.1
- VTMC 230.2
- VTMC 238.2

Year 2
41 credit units

- VBMS 305.2
- VBMS 333.6
- VBMS 334.3
- VINT 305.0
- VLAC 310.3
- VLAC 320.2
- VSAC 356.1
- VSAC 357.1
- VSAC 362.2
- VSAC 376.3
- VTMC 334.2
- VTMC 336.2
- VTMC 347.3
- VTPA 346.3
- VTPA 352.3
- VTPA 353.5

Year 3
~~51~~ 48 credit units

- VBMS 436.3
- VINT 405.0
- VINT 411.2
- VINT 415.1
- VLAC 462.5
- VLAC 473.3
- VLAC 474.2
- VLAC 482.5
- VSAC 410.1
- VSAC 458.1
- VSAC 460.1
- VSAC 462.1
- VSAC 463.5
- VSAC 465.4

Electives

Choose ~~17~~14 credit units from the following:

- VBMS 422.1
- VBMS 431.1
- VBMS 433.1
- VBMS 435.1
- VBMS 437.2
- VBMS 439.2
- VINT 400.2
- VINT 438.1
- VINT 439.2
- VINT 440.2
- VINT 442.2
- VLAC 429.1
- VLAC 433.2
- VLAC 437.2
- VLAC 439.2
- VLAC 441.2
- VLAC 443.2
- VLAC 445.2
- VLAC 447.2
- VLAC 449.2
- VLAC 451.1
- VLAC 453.2
- VLAC 455.1
- VSAC 435.2
- VSAC 437.2
- VSAC 439.2

- VSAC 441.1
- VSAC 443.1
- VSAC 445.2
- VSAC 449.2
- VSAC 454.1
- VSAC 455.1
- VSAC 456.1
- VSAC 457.1
- VSAC 475.1
- VSAC 477.1
- VTMC 441.1
- VTPA 421.1
- VTPA 431.2
- VTPA 434.1

Year 4

32 Credit Units

- VINT 580.32

Rationale: College Faculty Council approved a reduction in the electives requirement, October, 2015.

Corrections:

Post-Degree Certificate in Career and Guidance Studies

Please note the following complete Catalogue Entry for the Post-Degree Certificate in Career and Guidance Studies. This new program was submitted for approval to University Council on December 17, 2015 without the complete Catalogue Entry.

Post-Degree Certificate in Career and Guidance Studies

The Post-degree Certificate in Career and Guidance Studies is intended for those who wish to pursue career and guidance work in elementary and secondary schools. Guidance education pertains to career development as well as to social and personal management skills and topics related to wellness and mental health occurring within K-12 schools. The program is designed to meet the *Saskatchewan Professional Teachers Regulatory Board's* requirements for an Additional Qualification Certificate (AQC) in Career and Guidance Studies.

Admission requirements:
Applicants to this Post-degree Certificate program will hold a Bachelor of Education or equivalent degree in the human service field (as approved by the program Coordinator and Department Head) and at least one year of classroom teaching experience or the equivalent in a human service-related setting. Applicants with Bachelor of Education degrees may or may not be currently employed in career and guidance roles. A current criminal record check and three letters of reference will also be required. This program is available on a part-time basis. Some courses are available on-line, others can be taken in the evening, weekends or during the Spring and/or Summer sessions.

Nine 3-credit unit courses
One elective 3-credit unit 300,400, or 500-level course from Education or Arts & Science Total: 30-credit units

Course	Cr	Objectives	Delivery	Syllabus
Knowledge and Skill: **EPSE 416** Comprehensive Guidance and Counselling	3	Introduction to comprehensive guidance and counselling in school, community, and health settings. Communication skills for helping professionals are also introduced and practiced. Examines the roles, functions, and ethical practices of personnel involved in guidance counselling and career education. This is a prerequisite class for the graduate program in school and counselling psychology in the Department of Educational Psychology and Special Education.	In-person	Yes

Knowledge and Skill: **EPSE 417** Introduction to Theories of Counselling	3	Introduces students to foundational theories and practices of individual and group counselling. Key theories are surveyed in terms of their major concepts, therapeutic process and practical applications in school, community and health contexts. This is a prerequisite class for the graduate program in school and counselling psychology in the Department of Educational Psychology and Special	On-line	Yes

		Education.		
Knowledge and Skill: **EPSE 525** Career Development and Decision-Making	3	Career development is an important aspect of human development. In this course a number of career development theories will be examined along with a consideration of the decision making process. Students will also become familiar with Saskatchewan Career Education Curriculum, as well as program resources and activities for delivering career education across K-12 grades.	In-person	**TBD**
Knowledge and Skill: **EPSE 526** Ethics in School and Educational Settings	3	This course will address professional and ethical issues in the provision of career and guidance services in school and educational settings. Basic principles such as respect, responsibility, integrity, and systemic responsibilities are addressed in light of relevant codes, standards, and guidelines for ethical decision-making in collaborative contexts.	In-person	**TBD**
Knowledge and Skill: **EPSE 527** Skills for Effective Interpersonal Communication	3	This course will provide review and practice of basic skills necessary for effective communication in both personal and professional settings. It will include analysis of effective interpersonal skills and skill building laboratory experience. Knowledge and skills gained from this course are transferable to a variety of settings, including counselling, education, human development, management, healthcare, psychology, and recreation.	In-person	**TBD**
Knowledge and Skill: **EPSE 540** Collaboration Processes and Contexts	3	Examines models of service delivery in special education. Emphasis is placed on collaborative processes and team contexts. Students learn the basic communication and decision-making skills for collaborative team planning and program implementation. Collaborative teamwork is considered in	On-line	Yes

		a variety of team contexts: families, school-based teams, and integrated services.		
Knowledge and Skill: **EFDT 528** Anti-oppressive Education for Helping Professionals	3	This course draws on post-structural theories of subjectivity and difference to critically understand how power, knowledge and privilege normalize systems of social inequality. Provides human services and mental health professionals opportunity to examine how race, culture, ethnicity, class, gender, sexuality and disability impact client/helper relationships in schools and other social service agencies. Students will explore foundational building blocks for becoming anti-oppressive in one's practice.	In-person	**TBD**
Knowledge and Skill: **EPSE 441** Introductory Statistics in Education	3	Provides the student with an overview of descriptive statistics and basic psychometric concepts, with specific attention to problems of measurement and research in education. The emphasis is on application rather than derivation. No specific mathematical background is required.	On-line	Yes
Integration: **EPSE 529** Individual Project in Career and Guidance Studies	3	This course is designed to assist students' integration of content and experiences from other courses through an individual project. The aim is to prepare reflective practitioners capable of conducting a critical review of the research literature, integrating this knowledge into their professional repertoire, and communicating the products of this research to colleagues and others within school and educational contexts.	On-line	**TBD**
Approved Elective: 300, 400, or 500-level course	3	Emphasis on social and behavioral arts and/or sciences (i.e., College of Education, College of Arts and Science, College of Kinesiology)	May be in-person or on-line	N/A

Note: The Diploma in Guidance Studies is not a graduate program.

Note: Students entering the program having already completed any of the required courses will be required to take equivalent credits of approved electives.

Note: Successful completion of the Certificate in Career and Guidance Studies will fulfill most prerequisites for application to the Masters in School and Psychology Program. When choosing electives, students take responsibility for ensuring that they have the appropriate prerequisites or permission from the instructor(s).

Master of Public Health (M.P.H.) – Thesis-based

Please note the following complete Catalogue Entry for the Master of Public Health (M.P.H.) – Thesis-based. This new program was submitted to University Council as an Item for Information on November 19, 2015 without a complete Catalogue Entry.

Master of Public Health (M.P.H.) - Thesis-based

The Master of Public Health (M.P.H.) program thesis-option is an interdisciplinary program of studies intended to prepare individuals interested in enhancing their research skills in addition to preparing them for professional practice and leadership in public health. Students must first enroll in the course-based M.P.H. program and are eligible to apply to the thesis-option after they have completed the first term of the M.P.H. course-based program. Interested students who successfully meet all of the eligibility criteria would begin the thesis-option after the second term of the M.P.H. course-based program. This 42 credit-unit thesis-based program, with a required 16 week practicum in an applied public health setting, would typically require 24 months to complete on a full-time basis. At the end of the program, students would be expected to have completed and defended a Master's thesis consistent with the expectations of the School of Public Health and College of Graduate Studies and Research.

Admission Requirements

- Current student in the MPH course-based program
- Completion of GSR 960, GSR 961, PUBH 800, PUBH 803, PUBH 804, PUBH 805, PUBH 807, PUBH 810 and PUBH 867, with a cumulative weighted average of at least 80%
- Identify a thesis supervisor
- Supervisor together with input from student to establish an advisory committee
- Satisfactory draft of thesis proposal outlining a practicum project that has the potential to meet the minimum requirements for a Master's thesis

Degree Requirements
The minimum passing grade for all MPH core classes (see below) is 70% for all MPH students.

- GSR 962.0 if research involves animal subjects
- a minimum of 42 credit units, including the courses required for admission and the following core classes:
    - PUBH 840.3
    - PUBH 993.9
    - PUBH 990.0
    - PUBH 994.0
- 9 credit units of elective courses