



## Academic Programs Committee of Council

### University Course Challenge

**Scheduled posting: January, 2016**

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 Arts & Science  
College of Education  
College of Engineering  
College of Graduate Studies & Research  
School of Environment & Sustainability

**Approval:**      Date of circulation: January 15, 2016  
                            Date of effective approval if no challenge received: January 29, 2016

**Next scheduled posting:**

The next scheduled Challenge document posting will be February 16, 2016, with a submission deadline of **February 11, 2016**. Urgent items can be posted on request.

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

## University Course Challenge – January 2016

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.

### DIVISION OF SCIENCE

#### Physics

##### Minor program revision

Account for the deletion of CMPT 111 and 115.

[Bachelor of Science Four-year \(B.Sc. Four-year\) - Physics](#)  
[Bachelor of Science Three-year \(B.Sc. Three-year\) - Physics](#)  
[Bachelor of Science Double Honours - Physics - Major 1](#)

#### C1 Science Requirement (minimum 15 credit units)

- ~~CMPT 111.3~~ or CMPT 141.3 or [CMPT 116.3](#) (CMPT 116.3 is recommended)
- [PHYS 115.3](#)
- [PHYS 125.3](#) or [PHYS 117.3](#)

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

##### **Biology**

- [BIOL 120.3](#)
- [BIOL 121.3](#)

##### **Chemistry**

- [CHEM 112.3](#)
- [CHEM 115.3](#)

##### **Computer Science**

- [CMPT 106.3](#)
- ~~CMPT 115.3~~ or CMPT 145.3 or [CMPT 117.3](#)

#### Bachelor of Science Honours (B.Sc. Honours) - Physics

#### C1 Science Requirement (15-18 credit units)

- ~~CMPT 111.3~~ or CMPT 141.3 or [CMPT 116.3](#) (CMPT 116.3 is recommended)
- ~~CMPT 115.3~~ or CMPT 145.3 or [CMPT 117.3](#) (CMPT 117.3 is recommended)
- [PHYS 115.3](#)
- [PHYS 117.3](#) or [PHYS 125.3](#)

Choose 3 credit units from the following list:

##### **Biology**

- [BIOL 120.3](#)
- [BIOL 121.3](#)

### **Chemistry**

- [CHEM 112.3](#)
- [CHEM 115.3](#)
- [CMPT 106.3](#)

### **Earth Sciences**

- [GEOG 120.3](#)
- [GEOL 121.3](#)
- [GEOL 122.3](#)

Rationale: Students in Physics require a C-based language, which is currently taught in CMPT 116 and 117.

#### **New course(s):**

##### **EP 202.3 Electric and Magnetic Fields and Circuits**

1 (3L-3P alt weeks) Further develops the theory and analysis of electric and magnetic fields and circuits beyond the level of the prerequisite courses. Fundamental topics include electrostatics, magnetostatics, electromagnetic force, Faraday's and Lenz's Laws, capacitance and inductance. Circuit topics include transient RC and RL circuits, a.c. sources, impedance, phasors, a.c. network analysis, ferromagnetism and magnetic circuits, basic transformers, and linear motors and generators. Students are expected to have facility with using complex numbers but not vector calculus.

Prerequisite(s): (MATH 123 or MATH 110), (MATH 124 or MATH 116), and (PHYS 155 or PHYS 115).

Restriction(s): Restricted to students in the Electrical Engineering, Computer Engineering, Engineering Physics, and Geophysics programs.

Note: Formerly EE 202. Students with credit for EE 201 or EP 229 will not receive credit for this course.

Rationale: EE 202 has been taught by the Department of Physics & Engineering Physics for the past two years and will be for the foreseeable future. The Department of Electrical & Computer Engineering, and the College of Engineering, have agreed to this relabeling.

#### **Course deletions:**

##### **EP 313 Advanced Analog Electronics and Instrumentation**

Rationale: This course has been taught by the Department of Electrical & Computer Engineering, College of Engineering, for the past two years and will be for the foreseeable future. The course will be relabeled to EE 321. The College of Engineering has approved this change and submitted the relabeled course to the December 2015 University Course Challenge for approval.

#### **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.

### **INTERDIVISIONAL**

#### **Health Studies**

##### **Minor program revisions**

##### **Bachelor of Arts and Science Honours and Four-year in Health Studies**

Correct typo from December University Course Challenge. HIST 253 (Bringing Up the Bodies in History) should have been added, not HIST 256 (Post Confederation Canada 1867 to the Present).

[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 \(57 - 60 credit units\) \(63 - 66 credit units for Honours\)](#)

...

[Option C: Culture, Environment and Health \(48 credit units\)](#)

...

**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 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 421.3](#)
- [SOC 428.3](#)

## **DIVISION OF HUMANITIES AND FINE ARTS**

### **Music Education**

#### **Minor program revision**

Clarification that students may not use EMUS, MUAP, or MUS courses to fulfill the G1 Academic Courses requirement, as students are required to take a minimum number of credit units outside of their major.

[Bachelor of Music \(Music Education\) \(B.Mus.\(Mus.Ed.\)\) - Elementary/Middle Years](#)  
[Bachelor of Music Honours \(Music Education\) \(B.Mus.\(Mus.Ed.\)\) - Elementary/Middle Years](#)

### G1 Academic Courses (33 credit units)

- [KIN 121.3](#)
- [INDG 107.3](#)

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

- [100-Level ENG Courses](#)

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

- ...

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

**[+Science](#)**

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

- any course approved for credit in Arts & Science, **excluding EMUS, MUAP or MUS courses**

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

...

### Bachelor of Music (Music Education) (B.Mus.(Mus.Ed.)) - Secondary Bachelor of Music Honours (Music Education) (B.Mus.(Mus.Ed.)) - Secondary

### G1 Academic Courses (30 credit units)

- [INDG 107.3](#)

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

- [100-Level ENG Courses](#)

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

**[+Science](#)**

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

- any course approved for credit in Arts & Science, **excluding EMUS, MUAP or MUS courses**

Choose **15 Credit Units** from a subject that is chosen to be Teaching Area II.

...

## DIVISION OF SCIENCE

### Statistics

#### Minor program revisions

#### **Bachelor of Science Honours, Double Honours, and Four-year and Minor in Statistics**

Correction to revisions posted in December 2015 University Course Challenge: CMPT 116 and 117 are not eligible to be listed in Requirement C1 for this program.

#### 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:

...

#### 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:

...

Rationale: Enrolment in CMPT 116 and 117 is restricted to students in Engineering, and in Physics.

## DIVISION OF SOCIAL SCIENCES

### Economics

#### Minor course revisions

#### **ECON 214.3 Intermediate Macroeconomic Theory**

Correct copy/paste error in prerequisite change included in the December 2015 University Course Challenge.

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.

## 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 – January 2016

#### Program Modifications

##### Nursing

Master of Nursing (M.N.) - 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 15 credit units, including:

Currently:	Proposed:
NURS 882.3	<del>NURS 882.3</del>
NURS 891.3	NURS 891.3
NURS 892.3	NURS 892.3
3 credit units from NURS 812.3, NURS 813.3, NURS 814.3, NURS 815.3, NURS 816.3, NURS 893.3, or NURS 894.3	<del>3 credit units from NURS 812.3, NURS 813.3, NURS 814.3, NURS 815.3, NURS 816.3, NURS 893.3, or NURS 894.3</del>
3 credit unit 800-level Statistics, typically NURS 818.3	3 credit unit 800-level Statistics, typically NURS 818.3, <u>PUBH 805, ERES 840, KIN 808, CHEP 805, CHEP 806, STAT 845, PSY 805</u>
NURS 990.0	<u>3 cu of electives</u>
NURS 994.0	NURS 990.0 NURS 994.0

#### Rationale for Nursing (M.N.) thesis program changes

The College of Nursing has been undertaking a systematic program review of graduate programs in order to ensure that they continue to offer the highest quality programs to meet the needs of students and stakeholders. They sought to ensure that the Master of Nursing thesis program option was a research oriented program which could streamline student progress to the PhD Nursing program. Ultimately, faculty are committed to strengthening opportunities for student research intensiveness at the College of Nursing.

Contact: Kelly Clement ([Kelly.clement@usask.ca](mailto:Kelly.clement@usask.ca))



Implement requirements for transfer from a Master of Nursing to a PhD.

Students must maintain continuous registration in the 996 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- A minimum of 33 credit units at the 800-level:
- NURS 891.3
- NURS 892.3
- NURS 893.3
- 3 credit units in statistics (NURS 818.3, PUBH 805, ERES 840, KIN 808, CHEP 805, CHEP 806, STAT 845, PSY 805)
- 3 credit units in advanced statistics
- 6 credit units (2 courses) in a cognate area
- NURS 895.3
- NURS 896.3
- NURS 897.3
- NURS 997.0
- NURS 990.0
- NURS 996.0
- Pass a comprehensive examination, after completing the required course work, and prior to focusing on the research and doctoral thesis.
- Write and successfully defend a thesis based on original investigation.

### **Small Animal Clinical Sciences**

Master of Science (M.Sc.)

Degree Requirements

Students must maintain registration in VSAC 994.0

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- a minimum of 15-12 credit units of graduate level course work
- VSAC 990.0
- VSAC 994.0

## Doctor of Philosophy (Ph.D.) – Direct entry

### Degree Requirements

Students must maintain continuous registration in 996 course.

- At least 9 credit units of course work at the graduate level must be successfully completed in the first year of the program.
- Within the first year of the program, successfully complete a Ph.D. Qualifying Examination that is at least as rigorous as the defence for a Master's thesis in the program area
- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- a minimum of ~~21~~18 credit units at the 800-level
- VSAC 990.0
- VSAC 996.0 comprehensive examination
- Write and successfully defend a thesis based on original investigation.

Transfer from a Master's to Ph.D.

### Degree Requirements

Students must maintain continuous registration in 996 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- a minimum of ~~21~~18 credit units at the 800-level
- VSAC 990.0
- VSAC 996.0 comprehensive examination
- Comprehensive exam
- Write and successfully defend a thesis based on original investigation.

**Master of Water Security** – course regularized in concentrations

Hydrology concentration	Hydrogeology concentration	Socio-hydrology concentration
ENVS 824	GEOE 412	JSGS 807
ENVS 826 (climate change)	ENVS 826 (climate change)	JSGS 863
CE 464	CE <del>898-834</del> (water resources development)	ENVS 807
CE <del>898-834</del> (water resources development)	SLSC 821	ENVS 811
ENVS 805	ENVS 805	CHEP 802
ENVS 823	GEOE 475	BPBE 430
ENVS 825	GEOE 413	ENVS 805
CE 840	ENVS 813	ENVS 823
CE 415	CE 850	PUBH 815
GEOG 827		RRM 312
ENVS 813		ENVS 832
TOX 843		

**Community & Population Health Sciences**

Master of Science (M.Sc.)

Admission Requirements

- a four-year ~~honours~~-degree, or equivalent, from a recognized college or university in an academic discipline relevant to the proposed field of study
- a cumulative weighted average of at least a 70% (U of S grade system equivalent) in the last two years of study (e.g. 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

Contact: Kelly Clement ([Kelly.clement@usask.ca](mailto:Kelly.clement@usask.ca))

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 animals subjects
- a minimum of 18 credit units, including: CHEP 800.3
- CHEP 802.3
- CHEP 813.3
- CHEP 811.3
- CHEP 805.3 or a qualitative methods course (ERES 845.3, NURS 893.3, PSY 809.3, [JSGS 851.3](#) or equivalent)
- 3 credit units of elective graduate-level courses
- CHEP 990.0
- CHEP 994.0
- oral thesis defense
- residency requirement as set by department

Doctor of Philosophy (Ph.D.) – Direct Entry

#### Admission Requirements

With the recommendation of the unit, direct entry Ph.D. admission is available to exceptionally strong students, who show great promise in terms of academic accomplishments and potential for research.

- a four-year ~~honours~~-degree, or equivalent, from a recognized college or university in an academic discipline relevant to the proposed field of study
- A cumulative weighted average of at least 80% (U of S grade system equivalent) in the last two years of undergraduate study (i.e. 60 credit units of course work)
- 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 996 course.

- At least 9 credit units of course work at the graduate level must be successfully completed in the first year of the program.
- Within the first year of the program, successfully complete a Ph.D. Qualifying Examination that is at least as rigorous as the defence for a Master's thesis in the program area.
- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- A minimum of 21 credit units:

Contact: Kelly Clement ([Kelly.clement@usask.ca](mailto:Kelly.clement@usask.ca))

- CHEP 800.3
- CHEP 802.3
- CHEP 813.3
- CHEP 811.3
- CHEP 805.3 or a qualitative methods course (ERES 845.3, ~~or~~ NURS 893.3, ~~or~~ PSY 809.3, JSGS 851 or equivalent)
- CHEP ~~812~~817.3
- An advanced methods course, quantitative (CHEP 806.3 or equivalent) or qualitative. Approval by Graduate Program Chair required
- CHEP 990.0
- CHEP 996.0
- comprehensive examination
- Write and successfully defend a thesis based on original investigation
- Residency requirement as set by department

## Doctor of Philosophy (Ph.D.) - Non-Direct Entry

### Degree Requirements

Students who have not taken courses that represent an adequate introduction to community and population health at the Master's level (~~e.g., students who have a Master's degree in a related field~~) will be required to take CHEP 813.3 and possibly other courses, depending on academic preparation. ~~another of the required Master's courses.~~ The courses will be in addition to the regular Ph.D. course load, and will may be followed by a qualifying examination to ensure that the student is ready to be considered 'fully qualified'.

Students must maintain continuous registration in the 996 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animals subjects
- a minimum of 12 credit units, including:
- CHEP ~~812~~817.3
- an advanced research methods course, such as quantitative (-CHEP 806.3 or equivalent) or qualitative. Approval by Graduate Program Chair required
- 6 credit units of elective graduate-level courses
- CHEP 990.0
- CHEP 996.0
- qualifying examination, as required
- comprehensive examination
- oral thesis defense
- residency requirement as set by department

Transfer from Master's to Ph.D.

## Degree Requirements

Students must maintain continuous registration in the 996 course.

- GSR 960.0
- GSR 961.0 if research involves human subjects
- GSR 962.0 if research involves animal subjects
- CHEP 990.0
- a minimum of 21 credit units, depending on previous course work (defined as course work that may have been taken in previous Master's level program), including: prior to transfer, a minimum 9 credit units total from CHEP 800.3, CHEP 802.3, CHEP 813.3, CHEP 811.3
- an additional 12 credit units at the graduate-level after transfer including:
- CHEP ~~812~~817.3
- ~~a 3 credit unit~~ advanced research methods course, ~~such as~~quantitative (-CHEP 806.3 or equivalent) or qualitative. Approval by Graduate Program Chair required
- CHEP 996.0
- ~~completion of a~~ qualifying examination prior to transfer
- comprehensive examination
- oral thesis defense

## New Course Proposal

CHEP 816.3: Population Health Intervention Research (PHIR)

This interactive course is to review definitions, theories, methods and underlying assumptions of population health intervention research and to examine the evidence-base for evaluating population health interventions. We will discuss local real world examples and the way they are informing research, policy, program and practice changes to improve health and health equity.

Rationale: The field of Population Health Sciences is rapidly expanding and focus on community and societal-level factors which influence the distribution of risks and illness in entire populations or communities. The proposed course will increase the awareness and understanding of the value and pitfalls of population health interventions research and discuss ways to rigorously evaluate them while being aware of the underlying assumptions, and drawing on alternative paradigms, theoretical and methodological approaches. Students need to learn skills to test the effectiveness of real life interventions to generate informed evidence for practice and policy decisions and actions.

Instructor: Anne Leis, PhD

Prerequisite: CHEP 813 or equivalent

Contact: Kelly Clement ([Kelly.clement@usask.ca](mailto:Kelly.clement@usask.ca))

## Course Modifications for Information

CHEP 800.3 — (1.5L-1.5S)

Epidemiology †

Introduces key concepts and the basic methods used in epidemiology to evaluate the distribution and determinants of community and population health, disease, and health interventions. Examples will be drawn from communicable and chronic diseases, social epidemiology, health services research and many other related disciplines.

Prerequisite: STAT 244, STAT 245; or equivalent

**CHEP ~~812817~~.3 — 2(1L-2S)**

Advanced Research Seminar in Population Health

Designed as a culminating course experience for students in the doctoral program in Community Health and Epidemiology, for whom it is required. Students will take this course as they are completing their other course requirements, and it will provide them with an opportunity to reflect, integrate and synthesize all course materials and knowledge areas in preparation for their comprehensive examinations and dissertation research. The purpose is to prepare advanced students to become effective leaders in academic and research settings in all work settings. As such, this course will integrate content and theory with population health research practice as experienced by students through previous course work and life/professional experiences. It will be overseen by the course instructor, but the students will be major participants in their own learning. Students will participate in determining the course content, design and deliver a session, and contribute to assessment of student performance in the course.

**Restriction(s):** Must be registered in the Community Health and Epidemiology Ph.D. program or have received permission from the instructor.

**PTH 845.6 — M4(6L-2P)(9 weeks)**

Neurology I

Presents a conceptual framework for neurological practice built upon foundations of best evidence, rehabilitation sciences, motor control/learning theories, neuroanatomy, neurophysiology and neuro-regenerative science. Introduces assessment and management of impairments, activity limitations and participation restrictions common to neurological conditions. Course theory is applied to management of adult hemiplegia (cerebral vascular accident). Introduces students to a framework for neurological practice based on best evidence, rehabilitation sciences, motor control/learning theories, neuroanatomy, neurophysiology and neuroplasticity. Physiotherapy assessment fo common neurological conditions following the International Classification of Functioning is covered, including stroke, brain injury, spinal cord injury, multiple sclerosis, Parkinson's disease, and amyotrophic lateral sclerosis.

Contact: Kelly Clement ([Kelly.clement@usask.ca](mailto:Kelly.clement@usask.ca))

**PTH 847.6 — M5(5.5L-1.5P)(6 weeks)**

Neurology II

~~Presents a framework for management of gait dysfunction using adult hemiplegia as a model. Other conditions of the central and peripheral nervous system that are studied include traumatic brain injury, multiple sclerosis, post-polio syndrome and Guillain-Barre syndrome. Physical therapy management in acute care, rehabilitation and community settings are explored.~~

Students will apply the framework learned in Neurology I (PTH 845) to treatment planning and management of individuals with common neurological conditions including stroke, brain injury, spinal cord injury, multiple sclerosis, Parkinson's disease, and amyotrophic lateral sclerosis. Physiotherapy service provision across the lifespan in various practice settings is explored.

**PTH 848.2 — M9(2L-1P)(11 weeks)**

Neurology III

~~Considers presentation and management of spinal cord injury (acquired and congenital), Parkinson's Disease and Amyotrophic Lateral Sclerosis; complex conditions each with neuropathology, clinical presentation, and management that differ significantly from conditions studied in preceding courses. Quality of life, end of life, and ethical issues associated with these conditions are explored. Prepares physiotherapy students to assess and treat individuals with neurological conditions including Guillain-Barre syndrome, Alzheimer's disease, and spina bifida. Unique considerations in physiotherapy service provision for people with cognitive, emotional, and psychological impairments are explored, and advanced topics, quality of life, end of life, and ethical issues are investigated~~

**CMPT 876.3 — 1/2(3L)**

Image and Animation Synthesis

An advanced course in computer graphics, concentrating on techniques for synthesizing images and animations. Physical simulation for animation. Procedural modeling and texture synthesis. Data-driven computer graphics, including motion capture, image-based rendering and model acquisition. Further alternatives to traditional image formation methods, such as non-photorealistic rendering and point-based rendering.

**Prerequisite(s):** CMPT 829 or CMPT 485.



## College of Education, January 2016 University Course Challenge Proposal:

### 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 – 27 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

**Year 3 – 36 credit units**

- **[EADM 303.3](#)**
- [ECUR 309.3](#)
- [ECUR 310.3](#)
- **[ECUR 316.3](#)**
- **[ECUR 322.3](#)**
- **[ECUR 382.3](#)**
- [EDST 322.3](#)

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

Teaching Area 1

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

Teaching Area 2

#### Year 4 – 30 credit units

- one of [EADM 411.3](#), or [ECUR 411.3](#), or [EFDT 411.3](#), or [EPSE 411.3](#)
- [EADM 303.3](#)
- [EPSE 390.3](#)
- ~~[ECUR 316.3](#)~~
- ~~[ECUR 322.3](#)~~
- [EXPR 422.15](#)

#### Choose 6 ~~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](#)

## College of Education, January 2016 University Course Challenge Proposal:

Biology 312.3: Life in the North will no longer be offered in 2016-2017. The College of Education has approved NRTH 312.3 and BIOL 314.3 as equivalent courses in Education programs.

### 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 credit units from the following:

- [100-Level BIOL Courses](#)

Choose 9 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 314.3](#) or [NRTH 312.3](#) (formerly [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](#)

## 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 credit units from the following:

- [100-Level BIOL Courses](#)

Please note that [PLSC 214.3](#) cannot be used to fulfill this requirement.

Choose 6 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 314.3 or NRTH 312.3 (formerly [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](#)

## College of Education, January 2016 University Course Challenge Proposal:

*The College of Education has approved a revision to the Earth Science requirements for the Aboriginal Teacher Associate Certificate Program. The Earth Science requirement will now include GEOL 108.3, GEOL 109.3 and 100-Level, 200-Level, 300-Level or 400-Level GEOL Courses.*

### Aboriginal Teacher Associate Certificate Program

#### Year 1 (30 credit units)

- CREE 101.6
- EIND 380.3
- ENG 110.6 or 2 of ENG 111.3, ENG 112.3, ENG 113.3 or ENG 114.3
- HLTH 100.3

#### Non-credit support courses:

- MATH 99.0
- ENG 99.0

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

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

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

##### Biology

- BIOL 120.3
- BIOL 121.3
- CHEM 112.3
- CHEM 115.3

##### Computer Science

- CMPT 111.3
- CMPT 115.3

##### Earth Science

- GEOG 120.3
- **GEOL 108.3 or** GEOL 121.3
- **GEOL 109.3 or** GEOL 122.3
- **100-Level, 200-Level, 300-Level or 400-Level GEOL Courses**
- Any senior-level social science course from the subjects above.

##### Physics & Astronomy

- ASTR 113.3
- PHYS 115.3
- PHYS 117.3 or PHYS 125.3 (formerly PHYS 111 and PHYS 121)PHYS 128.3

##### Practical and Applied Arts

- TECH 183.3
- TECH 187.3
- TECH 283.3
- TECH 284.3
- TECH 285.3

- TECH 286.3
- TECH 287.3

#### Social Science

- ANTH 111.3
  - ARCH 112.3
  - ARCH 116.3
  - ECON 111.3
  - ECON 114.3
  - GEOG 130.3
  - INDG 107.3
  - LING 111.3
  - LING 112.3
  - POLS 111.3
  - POLS 112.3
  - PSY 100.3
  - PSY 120.3 (PSY 120 and 121 were formerly PSY 110)
  - PSY 121.3
  - SOC 111.3
  - SOC 112.3 (SOC 111.3 and SOC 112.3 were formerly SOC 110)
  - WGST 110.6
  - WGST 112.3
- Any senior-level social science course provided that the prerequisite is met and not more than 6 credit units in one subject are used for the Social Science Requirement
  - Statistics courses in social sciences are not accepted for credit toward the Social Science Requirement (eg. ECON 204.6, PSY 233.3 and PSY 234.3, SOC 225.3 and SOC 325.3 - (formerly SOC 240.3)).
  - Certain WGST courses may be considered a Humanities and/or Social Science. Refer to the course descriptions.

#### Item for Information

Please note the following complete Catalogue Entry for the new Post-Degree Certificate in English as an Additional Language Education, approved by University Council, December 17, 2015.

#### **Post-Degree Certificate in English as an Additional Language Education Requirements (24 credit units)**

##### **ECUR 291.3 – Introduction to Teaching of English as Second Language**

Prepares elementary, secondary and community college teachers to teach English as a second language to non-English speaking children and adults. Students will have an opportunity to study and examine: background; socio-cultural considerations; theoretical considerations about language learning comparison of L1 and L2; analysis of the structure of English; issues and problems inherent in the acquisition of second language; and introduction to specific instructional techniques for teaching a second language.

##### **ECUR 391.3 – Theory of Second Language Learning and Methods of Skills Development**

The second of a 3-course sequence designed to prepare elementary, secondary, and

community college teachers to teach English as a second language to non-English speaking children and adults. Includes second language learning theories, the psychology of second language learning, ESL Materials, analysis of written language, materials of teaching, and oral language in the ESL program and the evaluation of oral language.

### **ECUR 393.3 – Advanced Methods in Teaching English as Second Language**

This course encourages teachers to critically examine the many approaches and methods of teaching second languages through a solid understanding of the principles behind each approach. Topics include development of materials; techniques used in the various methods; and assessment, development, and evaluation of language skills in the ESL classroom. Teachers are encouraged to develop a personal, eclectic approach that responds to their learners' needs.

### **ECUR 415.3 – Current Issues in English as an Additional Language**

This course examines the social, political, and pedagogical issues pertaining to English as an additional language and other second/foreign language education, primarily from a sociolinguistic perspective. Emphasis is placed on how to prepare teachers to better address linguistic and cultural diversity that actually exists in the classrooms.

### **ECUR 490.3 – Language and Content: Instructional Approaches for EAL Learners**

The purpose of this course is to explore instructional approaches and strategies that are effective with EAL learners in PreK-12 classrooms. The course will focus on the learner's linguistic and cultural profile, the shift from conversational to academic language, the role of vocabulary-building, and the selection of instructional strategies and resources to support English language learning in classroom contexts. Students will have opportunities for classroom observation and reflection. They will also examine current research and evidence-based strategies for EAL support, with specific attention given to early years and high school EAL learners, and local target populations that include indigenous and heritage language speakers.



### **ECUR 492.3 – Approaches to Assessment with EAL Learners**

This course provides a comprehensive overview of approaches to assessment that impact English language learners in school-based contexts. Students will compare major language reference scales and their applicability to classroom curricular needs. Current approaches to EAL initial assessment and ongoing assessment in Saskatchewan schools will be examined. Students will have opportunities to discuss research on assessment practices with EAL learners and to identify vulnerability factors that affect the progress of linguistically and culturally diverse learners at school.

### **ECUR 493.3 – Individual Project: English as an Additional Language**

The purpose of this course is to provide an opportunity for students to integrate the content and experiences obtained in other courses by undertaking an individual project in the area of EAL as related to K-12 or adult education contexts. The central goal is to prepare the student as a reflective practitioner capable of conducting a critical review of the research, integrating this knowledge into their professional repertoire, and communicating the products of this research to colleagues and others. Cohort groups will address evolving needs within their particular contexts.

### **Individual Language Learning Experience – 3 credit units**

Students are required to take one university level class in a language other than English. Any recognized language course offered for credit at the University of Saskatchewan or another Canadian university will be acceptable, including credit courses in indigenous languages. Through the process of being a language learner, students will gain practical insights into the daily experiences and needs of students who are learning English as an additional language. Comparisons between the forms, functions and structure of English and other languages will allow for reflection and analysis of strategies that can support EAL learners in the classroom.

Arabic	ARBC 114.3; ARBC 117.3
Chinese	CHIN 114.3; CHIN 117.3; CHIN 202.3; CHIN 204.3; CHIN 214.3; CHIN 216.3; CHIN 217.3; CHIN 218.3
Cree	CREE 101.6; CREE 110.3; CREE 120.6
French	FREN 103.3; FREN 106.3; FREN 122.3; FREN 125.3; FREN 212.3; FREN 218.3; FREN 312.3
German	GERM 114.3; GERM 117.3; GERM 202.3; GERM 204.3; GERM 214.3; GERM 217.3; GERM 272.6; GERM 273.6; GERM 274.6; GERM 275.6; GERM 314.3; GERM 317.3
Greek	GRK 112.3; GRK 113.3; GRK 202.3; GRK 203.3
Hebrew	HEB 114.3; HEB 117.3
Hindi	HNDI 114.3; HNDS 117.3
Japanese	JPNS 114.3; JPNS 117.3; JPNS 214.3; JPNS 217.3
Latin	LATN 112.3; LATN 113.3; LATN 202.3; LATN 203.3; LATN 400.3
Sanskrit	SNSK 114.3; SNSK 117.3
Spanish	SPAN 114.3; SPAN 117.3; SPAN 202.3; SPAN 204.3; SPAN 214.3; SPAN 217.3; SPAN 275.3; SPAN 314.3; SPAN 317.3; SPAN 325.3
Ukrainian	UKR 114.3; UKR 117.3; UKR 214.3; UKR 217.3; UKR 314.3; UKR 317.3

## **Elective Courses\* – 6 credit units**

*\*6 credit units of elective courses will be chosen by the student in consultation with the Program Advisor.*

- **ECUR 475.3** – Study of Language for Secondary Teachers
- **EIND 380.3** Incorporating Cultural Arts of Indian Metis and Inuit People into School Programs
- **EPSE 510.3** – Supporting Students with Language and Communication Needs in the Classroom
- **LING 110.3** – Introduction to English Grammar
- **LING 111.3** – Structure of Language
- **LING 244.3** - Sociolinguistics
- **LING 248.3** Second Language Acquisition Theory
- **LING 251.3** – Intercultural Communication
- **LING 252.3** - Languages and Cultures of Canada
- **LING 342.3** – Aboriginal Languages of Canada

*Students may select a course that is not listed above if approved by the Department Head of Curriculum Studies.*

## **AQC Requirements - Saskatchewan Professional Teachers' Regulatory Board (SPTRB)**

*If a required course has been taken as part of the B.Ed. program or any other degree program, students may select an additional language class or elective course from the lists provided.*

A non-standard university schedule will be developed to accommodate educators who are employed in various parts of the province.

Upon completion of the ten courses in the AQC and notification of approval from the Saskatchewan Professional Teachers Regulatory Board (SPTRB), successful students will be presented with their certificates at the university's fall or spring convocation ceremony.

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**INTEROFFICE MEMORANDUM**

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**TO:** MS. SEANINE WARRINGTON  
COORDINATOR OF ACADEMIC PROGRAMS & CATALOGUE, SESD

**FROM:** MR. CHRISTOPHER MARTIN  
ACADEMIC PROGRAMS COORDINATOR, COLLEGE OF ENGINEERING

**SUBJECT:** **UNIVERSITY COURSE CHALLENGE – JANUARY 2016**

**DATE:** JANUARY 12, 2016

**CC:** DR. AARON PHOENIX  
ASSOCIATE DEAN ACADEMIC, COLLEGE OF ENGINEERING

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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

## Program Change

Motion: To remove CE 201.0 as a program requirement in the Geological Engineering program of study effective 201609.

*Rationale: the Department of Civil, Geological, and Environmental Engineering has created a new course (CE 202) that will replace the CE 201 requirement.*

## Course Deletions

Motion: To delete the course number of EE 202.3

*Rationale: This motion is half the process of changing the course number of EE 202.3 to EP 202.3. The course has been taught by the department of Physics and Engineering Physics for the past two years and will be for the foreseeable future. Those involved with the course want it listed under EP.*

## Minor Program Revisions

### ***Bachelor of Science in Engineering – Chemical Engineering***

Motion: To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

Motion: To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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 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](#)
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- [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](#)
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- [PHIL 251.3](#)
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- [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).

### ***Bachelor of Science in Engineering – Computer Engineering***

**Motion:** To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

**Motion:** To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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](#)
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- [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 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](#)
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- [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](#)
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- [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).

### ***Bachelor of Science in Engineering – Electrical Engineering***

Motion: To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

Motion: To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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](#)
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- [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](#)
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- [100-Level, 200-Level, 300-Level or 400-Level SNSK Courses](#)
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- 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).

### ***Bachelor of Science in Engineering –Engineering Physics***

Motion: To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

Motion: To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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](#)
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- [100-Level, 200-Level, 300-Level or 400-Level INDG Courses](#)
- [100-Level, 200-Level, 300-Level or 400-Level JPNS Courses](#)
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- [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](#)
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- [100-Level, 200-Level, 300-Level or 400-Level SNSK Courses](#)
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- 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).

### ***Bachelor of Science in Engineering – Environmental Engineering***

Motion: To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

Motion: To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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](#)
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- [100-Level, 200-Level, 300-Level or 400-Level JPNS Courses](#)
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- [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](#)
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- 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).

### ***Bachelor of Science in Engineering – Geological Engineering***

**Motion:** To add GEOE 430 and GEOE 431 to the list of approved Group C Electives in the Geological Engineering program.

*Rationale: The Group C Electives in the Geological Engineering program are engineering electives of value to geological engineers. These courses, GEOE 430: Drill, Blast, and Excavate, as well as GEOE 431: Mine Design, are engineering courses of interest to geological engineering.*

### **Group Electives**

#### **Group A**

- [CHEM 377.3](#)
- [GEOG 335.3](#)
- [GEOL 229.3](#)
- [GEOL 282.3](#)
- [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 430.3](#)
- [GEOE 431.3](#)

### ***Bachelor of Science in Engineering – Mechanical Engineering***

**Motion:** To add Arabic courses to the list of Complementary Studies electives.

*Rationale: This is to ensure consistency with other language courses.*

**Motion:** To remove COMM 300.3 from the Complementary Studies electives list.

*Rationale: The course is being removed as per the December 2015 University Course Challenge posting.*

### **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 ARBC 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](#)
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- Special Topics courses cannot be used to meet a Complementary Studies Elective Requirement (any course ending in 98 or 99).

## School of Environment and Sustainability – University Course Challenge, January, 2016

The following adjustment has been approved by the School and is now being submitted for approval.

### Certificate in Sustainability

The Certificate in Sustainability is intended to give students theoretical, methodological, strategic, and substantive exposure to sustainability-related concepts and practice. Students will choose either the natural resources and sustainability focus or the community and sustainability focus. The certificate will allow students to engage in problem-based, experiential learning across a broad range of sustainability topics. The program will begin in the student's second year with ENV5 201.

### Program Requirements

#### Certificate in Sustainability (21 credit units)

#### Required Courses (9 credit units):

- [ENVS 201.3](#)
- [ENVS 401.3](#)
- [INDG 107.3](#)

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

#### Techniques and Tools for Sustainability

- [ENVE 481.3](#)
- [EVSC 203.3](#)
- [GEOG 290.3](#)
- [GEOG 385.3](#)
- [GEOG 386.3](#)
- [INDG 210.3](#)
- [RRM 321.3](#)
- [SOC 225.3](#)
- [SOC 232.3](#)
- [SOC 333.3](#)

Students must choose one of the following two areas of focus, in consultation with an advisor:

#### Natural Resources and Sustainability Focus

#### Elective Courses (9 credit units):

#### Choose one of:

- [BIOL 228.3](#)
- [ECON 275.3](#)

- [ECON 277.3](#)
- [ENVE 201.3](#)
- [ENVE 212.3](#)
- [EVSC 210.3](#)
- [EVSC 220.3](#)
- [GEOG 280.3](#)
- [PHIL 226.3](#)
- [PHIL 231.3](#)
- [PHIL 236.3](#)
- [PLSC 213.3](#)

**Choose one of:**

- [BIOL 373.3](#)
- [BPBE 330.3](#)
- [ECON 376.3](#)
- [GEOG 329.3](#)
- [GEOG 351.3](#)
- [RRM 312.3](#)
- [TOX 301.3](#)

**Choose one of:**

- [BIOL 410.3](#)
- [BIOL 412.3](#)
- [BIOL 470.3](#)
- [BIOL 475.3](#)
- [ENVE 432.3](#)
- [BPBE 430.3](#)
- [EVSC 421.3](#)
- [EVSC 430.3](#)
- [PLSC 422.3](#)
- [PLSC 423.3](#)
- [PLSC 425.3](#)

**Community and Sustainability Focus**

**Rationale:**

PLSC 425 is being added to the Natural Resources and Sustainability Focus 400-level section (students choose one course from the list) of the Certificate in Sustainability to increase the number of options available to students. Reasons for choosing PLSC 425 include:

- students have requested to use PLSC 425 as an elective in this focus in the past
- students in the RRM program face scheduling challenges with respect to the 400-level options for the certificate, and this class would help to alleviate those
- PLSC 425 focuses on forest ecology and provides another ecology-focused option to choose from (other courses with an ecology focus included in the list are Ecological Toxicology, Rangeland Ecology and Management and Landscape Ecology and Vegetation Management)