



Academic Programs Committee of Council

University Course Challenge

Scheduled posting: September, 2018

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 curricular changes which affect other colleges.

Contents include submissions for information and approval from the following colleges:

College of Engineering

College of Graduate and Postdoctoral Studies

Approval: Date of circulation: September 13, 2018
 Date of effective approval if no challenge received: September 28, 2018

Next scheduled posting:

The next scheduled posting will be October 17, 2018, with a submission deadline of **October 15, 2018**. 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.

University Course Challenge Submission
September 2018

The following items have been approved by the Undergraduate Academic Programs Committee within the College of Engineering and are being submitted to University Course Challenge for approval:

Department of Civil, Geological, and Environmental Engineering

Motion: To alter the requirements for the undergraduate Civil Engineering program by replacing CMPT 113.3 with CMPT 141.3 as a required course in Year 2, Term 2 (effective 2019-05).

Motion: To alter the requirements for the undergraduate Environmental Engineering program by replacing CMPT 113.3 with CMPT 141.3 as a required course in Year 2, Term 2 (effective 2019-05).

Motion: To alter the requirements for the undergraduate Geological Engineering program by replacing CMPT 113.3 with CMPT 141.3 as a required course in Year 2, Term 2 (effective 2019-05).

Rationale: The Department of Computer Science created a new course (CMPT 141.3) over two years ago. At that time, they encouraged various colleges to alter program requirements to reflect the new course code. A limited number of engineering programs adopted the change at that time. These motions involve updating program requirements in three additional undergraduate programs. Only one undergraduate program (chemical engineering) now requires CMPT 113.3.

Please direct comments, questions, or concerns regarding this submission to Christopher Martin, Programs and Projects Officer, by phone (306-966-3201) or email (chris.martin@usask.ca).

Civil Engineering

Civil Engineering covers the broad areas of municipal, geotechnical, hydrotechnical, 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 admitted to the College of Engineering are required to complete a common first-year of undeclared studies (known as the first-year common core). Once the first-year common core program has been completed, undergraduate students declare their preferences and compete for admission into an upper-year program. Students who are successful in securing admission into an upper-year program are required to follow the program of study that is prescribed at the time of their admission into the upper-year program.

Recognizing that course and program changes may result in a modification to the original program of study, it is recommended that undergraduate students consult an Academic Advisor within the Engineering Student Centre on a regular basis to confirm their program of study, choose courses (including electives), and monitor their academic progress.

Program Requirements

Bachelor of Science in Engineering (B.E.) - Civil Engineering

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Fall Term

- [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 Fall Term of Year 2.

Winter Term

- [CE 225.3](#)
- [CE 295.3](#)
- [GE 213.3](#)
- [MATH 224.3](#)

• ~~CMPT 113.3~~ **CMPT 141.3**

Fall Term or Winter Term

- [RCM 300.3](#)
- 3 credit units Science Elective List 1 or List 2

Spring Term

- [CE 271.2](#)

Year 3 (36 credit units)

Fall Term

- [CE 315.3](#)
- [CE 317.3](#)
- [CE 318.3](#)
- [CE 320.3](#)
- [CE 328.3](#)
- [GE 348.3](#)

Winter Term

- [CE 319.3](#)
- [CE 321.3](#)
- [CE 327.3](#)
- [CE 329.3](#)
- [CE 330.3](#)
- 3 credit units Senior Humanities or Social Science Elective

Year 4 (36 credit units)

Fall Term and Winter Term

- [CE 495.6](#)

Fall Term or Winter Term

27 credit units (9 courses)

- 3 credit units CE Elective Courses (Group W)
- 3 credit units CE Elective Courses (Group G)
- 3 credit units CE Elective Courses (Group S)
- 3 credit units CE Elective Courses (Group P)
- 12 additional credit units CE Elective courses (Groups W, G, or S)
- 3 additional credit units CE Elective courses (Groups W, G, S, P, or R)

Winter Term

- [GE 449.3](#)

Electives

Science Elective

If [GEOL 121.3](#) is not taken as the science elective in Year 1, it must be taken in Fall Term 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](#)

CE Elective Courses

CE electives are offered subject to minimum enrolment and staffing considerations. Civil Engineering students are required to complete 27 credit units from Groups W, G, S, P, or R:

W: Water and Municipal Engineering

- [CE 415.3](#)
- [CE 464.3](#)
- [GEOE 375.3](#)
- [ENVE 414.3](#)

G: Soil, Pavement and Geotechnical Engineering

- [CE 417.3](#)
- [CE 466.3](#)
- [CE 468.3](#)
- [GEOE 315.3](#)

S: Structural Engineering

- [CE 418.3](#)
- [CE 463.3](#)
- [CE 470.3](#)
- [CE 474.3](#)

P: Projects and Planning

- [CE 421.3](#)
- [CE 467.3](#)
- [ENVE 381.3](#)

R: Related Courses

- [PLAN 341.3](#)
- [PLAN 350.3](#)
- 400-Level RCM 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 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](#)
- GEOG Select 200, 300, or 400 Level
- [GEOG 202.3](#)
- [GEOG 204.3](#)
- [GEOG 208.3](#)
- [GEOG 240.3](#)
- [GEOG 280.3](#)
- 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](#) and [PSY 236.3](#) 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](#), [RCM 410.3](#), and [RCM 495.3](#).

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 admitted to the College of Engineering are required to complete a common first-year of undeclared studies (known as the first-year common core). Once the first-year common core program has been completed, undergraduate students declare their preferences and compete for admission into an upper-year program. Students who are successful in securing admission into an upper-year program are required to follow the program of study that is prescribed at the time of their admission into the upper-year program.

Recognizing that course and program changes may result in a modification to the original program of study, it is recommended that undergraduate students consult an Academic Advisor within the Engineering Student Centre on a regular basis to confirm their program of study, choose courses (including electives), and monitor their academic progress.

Program Requirements

Bachelor of Science in Engineering (B.E.) - Environmental Engineering

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Fall Term

- CE 212.3
- ENVE 201.3
- GE 210.3
- GEOE 218.3
- MATH 223.3

Winter Term

- CHE 210.3
- ~~CMPT 113.3~~ **CMPT 141.3**
- ENVE 212.3
- GE 213.3
- MATH 224.3

Spring Term

- [CE 271.2](#) (may be completed in year 2 or year 3)

Fall Term or Winter Term

- [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)**Fall Term**

- [CE 315.3](#)
- [CE 318.3](#)
- [CE 328.3](#)
- [CHEM 250.3](#)
- [EE 204.3](#)
- 3 credit units Complementary Studies Elective

Winter Term

- [CE 319.3](#)
- [CE 327.3](#)
- [CHE 223.3](#)
- [ENVE 381.3](#)
- [GE 348.3](#)
- [RCM 300.3](#)

Year 4 (36 credit units)**Fall Term**

- [CE 320.3](#)
- [ENVE 482.3](#)

Winter Term

- [CHE 454.3](#)
- [BLE 313.3](#)

Fall Term and Winter Term

- [ENVE 495.6](#)

Fall Term or Winter Term

- [GE 449.3](#)
- 6 credit units Environmental Engineering Electives (Group A)
- 3 credit units Environmental Engineering Electives (Group A or B)
- 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](#)
- [EVSC 420.3](#)
- [EVSC 421.3](#)
- [FABS 212.3](#)
- [GEOL 413.3](#)
- [TOX 301.3](#)

Environmental Engineering Elective**Environmental Engineering Elective (Group A)**

- [ENVE 414.3](#)
- [ENVE 432.3](#)
- [ENVE 478.3](#)

Environmental Engineering Elective (Group B)

- [CE 415.3](#)
- [CE 464.3](#)
- [CE 468.3](#)
- [CHE 461.3](#)
- [GEOE 375.3](#)

Complementary Studies Elective

- [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 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 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 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](#)
- GEOG Select 100, 200, 300, or 400 Level

- [GEOG 130.3](#)
- [GEOG 202.3](#)
- [GEOG 204.3](#)
- [GEOG 208.3](#)
- [GEOG 240.3](#)
- [GEOG 280.3](#)
- PHIL Select 100, 200, 300, or 400 Level

- [PHIL 120.3](#)
- [PHIL 133.3](#)
- [PHIL 140.3](#)
- [PHIL 202.3](#)
- [PHIL 206.3](#)
- [PHIL 208.3](#)
- [PHIL 209.3](#)
- [PHIL 210.3](#)
- [PHIL 211.3](#)
- [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 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

- [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 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](#)
- GEOG Select 200, 300, or 400 Level
- [GEOG 202.3](#)
- [GEOG 204.3](#)
- [GEOG 208.3](#)
- [GEOG 240.3](#)
- [GEOG 280.3](#)
- 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](#) and [PSY 236.3](#) 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](#), [RCM 410.3](#), and [RCM 495.3](#).

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 admitted to the College of Engineering are required to complete a common first-year of undeclared studies (known as the first-year common core). Once the first-year common core program has been completed, undergraduate students declare their preferences and compete for admission into an upper-year program. Students who are successful in securing admission into an upper-year program are required to follow the program of study that is prescribed at the time of their admission into the upper-year program.

Recognizing that course and program changes may result in a modification to the original program of study, it is recommended that undergraduate students consult an Academic Advisor within the Engineering Student Centre on a regular basis to confirm their program of study, choose courses (including electives), and monitor their academic progress.

Program Requirements

Bachelor of Science in Engineering (B.E.) - Geological Engineering

Year 1 (34 credit units)

All Engineering programs have a common first year.

Year 2 (38 credit units)

Fall Term

- [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 Fall Term of Year 2.

Winter Term

- [CE 225.3](#)
- [CE 295.3](#)
- ~~[CMPT 113.3](#)~~ [CMPT 141.3](#)
- [GE 213.3](#)
- [MATH 224.3](#)

Fall Term or Winter Term

- [RCM 300.3](#)
- 3 credit units Senior Humanities or Social Science Elective

Spring Term

- [CE 271.2](#)

Year 3 (39 credit units)

Fall Term

- [CE 318.3](#)
- [CE 328.3](#)
- [GEO 224.3](#)
- [GEO 245.3](#)
- [GEO 258.3](#)

Winter Term

- [CE 319.3](#)
- [CE 330.3](#)
- [GEO 315.3](#)
- [GEO 375.3](#)
- [GEO 226.3](#)
- 3 credit units Group B Elective

Fall Term or Winter Term

- [GE 348.3](#)
- 3 credit units Group A Elective

Spring Term

- [GEO 378.3](#)

Year 4 (36 credit units)

Fall Term

- [CE 320.3](#)
- [GE 449.3](#)
- [GEO 412.3](#)
- [GEO 414.3](#)

Winter Term

- [GEO 466.3](#)

Fall Term and Winter Term

- [GEO 495.6](#)

Fall Term or Winter Term

- 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](#)
- [GEO 229.3](#)
- [GEO 282.3](#)
- [GEO 334.3](#)
- [GEO 335.3](#)
- [GEO 358.3](#)
- [GEO 413.3](#)
- [GEO 463.3](#)
- [GEO 465.3](#)
- [GEO 482.3](#)
- [GEO 483.3](#)

Group B

- [GEO 334.3](#)
- [GEO 335.3](#)
- [GEO 384.3](#)

Group C

- [CE 466.3](#)
- [CE 468.3](#)
- [CHE 464.3](#)
- [ENVE 381.3](#)
- [ENVE 478.3](#)
- [GEOE 377.3](#)
- [GEOE 380.3](#)
- [GEOE 430.3](#)
- [GEOE 431.3](#)

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 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](#)
- GEOG Select 200, 300, or 400 Level
- [GEOG 202.3](#)

- [GEOG 204.3](#)
- [GEOG 208.3](#)
- [GEOG 240.3](#)
- [GEOG 280.3](#)
- 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](#) and [PSY 236.3](#) 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](#), [RCM 410.3](#), and [RCM 495.3](#).

Bachelor of Science in Engineering (B.E.) - 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)

College of Graduate and Postdoctoral Studies, September 2018 University Course Challenge Proposal

The following changes have been approved by the College of Graduate and Postdoctoral Studies, and are being submitted to University Course Challenge as follows:

FOR APPROVAL

AREC 837.3 — 1(3S)

Non-market Valuation for Natural Resources and the Environment

Will emphasize the development and illustration of concepts, issues, and analytical techniques for non-market valuation. Students will examine competing theories in resource and environmental economics and learn to apply analytic models. Students will also need to apply non-market valuation techniques and enhance understanding of natural resource policy implications.

Restriction(s): ~~Graduate standing (enrollment in the M.Sc. or Ph.D. in Agricultural Economics or M.A. in Economics programs) or permission of the instructor.~~ Only open to students in the College of Graduate and Postdoctoral Studies. **Note:** Students with credit for BPBE 837 will not receive credit for this course.

FOR INFORMATION

Course Modification:

PLSC 836.1: Experimental Analysis

Training in the design and analysis of complex experiments. Topics will include the design of agronomic field experiments and an introduction to the theory and practice of mixed models with a focus on the analysis of multisite field experiments.

Prerequisite(s) or Corequisite(s): One of PLSC 835.1 or SLSC 851.1 or ANSC 801.3, or permission of the instructor.

Note: Students with credit for PLSC 813 may not receive credit for this course.

Rationale: Clarification of pre-/co-requisite requirement for accuracy and to facilitate registration.

Minor Programs Modifications:

Master of Music (M.Mus.) (Composition)

This is a thesis-based program.

Students must maintain continuous registration in MUS 994.

- GPS 960.0
- GPS 961.0 if research involves human subjects
- GPS 962.0 if research involves animal subjects
- MUS 994.0 (thesis)
- a minimum of 21 credit units, including:

- MUS 841.3 ([Graduate students who have previously taken a bibliography course may petition the Department of Music Graduate Committee to have the bibliography requirement waived and to have another 800-level elective substituted in its place](#))
- MUS 845.3
- MUS 853.3 or MUS 854.3
- MUS 842.6
- MUS 823.3
- One of: MUS 822.3, MUS 851.3, MUS 855.3, MUS 898.3, or MUS 899.6
- completion of a comprehensive examination
- second language requirement
- keyboard requirement
- participation in professional activities

Master of Music (M.Mus.) (Music Theory)

Students must maintain continuous registration in MUS 994.

- GPS 960.0
- GPS 961.0 (if research involves human subjects)
- GPS 962.0 (if research involves animal subjects)
- MUS 994.0 (thesis)
- a minimum of 21 credit units, including:
- MUS 841.3 ([Graduate students who have previously taken a bibliography course may petition the Department of Music Graduate Committee to have the bibliography requirement waived and to have another 800-level elective substituted in its place](#))
- MUS 845.3
- MUS 853.3 or MUS 854.3
- 12 credit units from the following: MUS 850.3, MUS 851.3, MUS 855.3, MUS 856.3, MUS 898.3, or MUS 899.6
- completion of a comprehensive examination
- a foreign language
- a keyboard requirement
- participation in professional activities

Master of Arts (M.A.) (Musicology)

This is a thesis-based program.

Degree Requirements

Students must maintain continuous registration in MUS 994.

- GPS 960.0
- GPS 961.0 if research involves human subjects
- GPS 962.0 if research involves animal subjects
- MUS 994.0 (thesis)
- a minimum of 21 credit units, including:

- MUS 841.3 ([Graduate students who have previously taken a bibliography course may petition the Department of Music Graduate Committee to have the bibliography requirement waived and to have another 800-level elective substituted in its place](#))
- MUS 845.3
- MUS 853.3 or MUS 854.3
- 6 credit units from MUS 821.3, MUS 851.3, MUS 852.3, MUS 853.3, or MUS 854.3
- 6 credit units of electives
- MUS 994.0 (thesis)
- completion of a comprehensive examination
- second language requirement
- keyboard requirement
- professional activities