



## Academic Programs Committee of Council

### University Course Challenge

**Scheduled posting: April 2023**

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 Agriculture and Bioresources  
College of Arts and Science  
College of Engineering  
College of Graduate and Postdoctoral Studies  
College of Nursing  
College of Pharmacy and Nutrition

**Approval:**      Date of circulation: April 14, 2023  
                            Date of effective approval if no challenge received: May 1, 2023

**Next scheduled posting:**

The next scheduled posting will be May 16, 2023, with a submission deadline of **May 12, 2023**. 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 Governance Office.

## College of Agriculture and Bioresources – April 2023 University Course Challenge

The following has been approved by the College of Agriculture and Bioresources and is now being submitted to University Course Challenge for approval:

**Motion:** to add **GEOG 380.3** (*Environmental Geography of the Circumpolar North*) be added to the Restricted Electives list for the *Kanawayihetaytan Askiy* (KA) Diploma in Indigenous Resource Management.

**Rationale:** This GEOG 380.3 course has been approved by the College of Agriculture and Bioresources *Undergraduate Affairs Committee*, as well as the *KA Committee*, to be listed on the Restricted Electives list under the above noted diploma program, as a result of the Geography department's recent decision in February 2023 to delete GEOG 381.3 from the College of Arts and Science's course offerings.

Therefore, GEOG 381.3 will not be a future course option for students to select and instead, GEOG 380.3 will be available for students to opt-into, should they choose to do so. This decision to use GEOG 380.3 has been a suggested replacement for this program with minor adjustments made to two modules to allow for GEOG 380.3 to serve as the sole course in this area, as recommended by Geography.

The changes will be outlined in the Catalogue, as follows:

### **Kanawayihetaytan Askiy Diploma in Indigenous Resource Management, Dip.(K.A.I.R.M.) (60 credit units)**

The Diploma in Indigenous Resource Management provides students with a broad background in resource management for Indigenous communities. The program teaches students the skills required for future employment as land managers as well as the scientific and traditional knowledge required for research and decision-making. The diploma consists of a combination of in-person and online courses to allow students flexibility in their scheduling. Students who have completed the Kanawayihetaytan Askiy Certificate can ladder into the program and complete the Diploma in Indigenous Resource Management with the completion of 39 credit units.

### **Core Requirements (21 credit units)**

- [\*\*AGRC 110.3\*\*](#) Scientific Literacy and Communication for the Agricultural Sciences
- [\*\*ASKI 202.1\*\*](#) Introduction to Land Management Frameworks
- [\*\*ASKI 204.2\*\*](#) Introduction to the Duty to Consult
- [\*\*EVSC 110.3\*\*](#) Renewable Resources and Environment
- [\*\*INDG 107.3\*\*](#) Introduction to Canadian Indigenous Studies

- [GEOG 120.3](#) Introduction to Global Environmental Systems
- [AGRC 111.3](#) Discovery in Plant and Soil Sciences or [ASKI 101.3](#) Field Studies in the Environment
- [RRM 114.3](#) Introductory Resource Economics and Policy or [ASKI 105.3](#) Economics and Planning

### Indigenous Studies (6 credit units)

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

- [AREC 220.3](#) History of Indigenous Agriculture in Canada
- [INDG 210.3](#) Indigenous Ways of Knowing
- [INDG 241.3](#) Weaving Indigenous Science and Western Science
- [INDG 264.3](#) Aboriginal People and Canadian Politics
- [INDG 265.3](#) Aboriginal People and Development
- [POLS 222.3](#) Indigenous Governance and Politics
- [POLS 323.3](#) First Nations Policies and Programs
- POLS 324.3
- [RRM 312.3](#) Natural Resource Management and Indigenous Peoples

### Restricted Electives (27 credit units)

Choose **27 credit units** from any of the following subgroups of courses.

Note: While students can opt to take several courses from one subgroup, they may also select courses from across the subgroups. These subgroups are intended to identify for students the specializations embedded into the diploma but also to provide maximum flexibility.

#### *Tools and Techniques*

- [EVSC 204.1](#) Soil Sampling Design and Implementation
- [GEOG 222.3](#) Introduction to Geomatics
- [GEOG 322.3](#) Introduction to Geographic Information Systems or [RRM 323.2](#) Resource Data and Environmental Modeling and [RRM 201.1](#) Geographical Information Systems
- [RRM 215.3](#) Identification of Saskatchewan Plants and Soils
- [SLSC 205.1](#) Introduction to Field Description of Soils
- [PLSC 202.3](#) Introductory Precision Agriculture

#### *Land-based Field Studies*

- [RRM 301.9](#) Field Course in Renewable Resource Management
- [SLSC 350.3](#) Terrestrial Restoration

- [SLSC 498.3](#) Special Topics
- [EVSC 380.3](#) Grassland Soils and Vegetation
- [SLSC 480.3](#) Soils and Boreal Landscapes
- [ANBI 475.3](#) Field Studies in Arctic Ecosystems and Aboriginal Peoples

#### *Soils and Landscapes*

- [EVSC 380.3](#) Grassland Soils and Vegetation
- [GEOG 150.3](#) Introduction to the Circumpolar World
- [GEOG 204.3](#) Geography of the Prairie Region
- [GEOG 280.3](#) Environmental Geography
- [SLSC 240.3](#) Agricultural Soil Science or [EVSC 220.3](#) Environmental Soil Science
- [SLSC 232.3](#) Soil Genesis and Classification
- [SLSC 312.3](#) Soil Fertility and Fertilizers

#### *Plants and Biology*

- [BIOL 120.3](#) The Nature of Life
- [BIOL 121.3](#) The Diversity of Life
- [PLSC 201.3](#) Field Crops of Western Canada
- [PLSC 213.3](#) Principles of Plant Ecology
- [PLSC 220.3](#) Fundamentals of Horticulture
- [PLSC 222.3](#) Introduction to Field Crops
- [PLSC 234.3](#) Weed Control in Organic Agriculture
- [PLSC 235.3](#) Urban Agriculture

#### *Policy, Planning, and Law*

- [ASKI 102.3](#) Introduction to Legal Concepts in Resource Management
  - [ASKI 103.3](#) Legal Process and Instruments in Resource Management
  - [ASKI 104.3](#) Introduction to Management Issues or [COMM 101.3](#) Introduction to Business
  - [ASKI 201.3](#) Resource Management Project Assessment
  - ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
  - [GEOG 380.3](#) Environmental Geography of the Circumpolar North
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- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
  - [GEOG 386.3](#) Environmental Impact Assessment
  - [PLAN 329.3](#) Integrated Water Resource Planning

#### *Food Security and Sovereignty*

- [AGRC 211.3](#) Global Food Security
- [INDG 221.3](#) Indigenous Food Sovereignty

*Animal Science*

- [AGRC 112.3](#) Animal Agriculture and Food Science
- [AGRC 113.3](#) Introduction to Agri Food Economics
- [ANSC 212.3](#) Livestock and Poultry Production
- [ANBI 375.3](#) Animals and the Environment

**Open Electives (6 credit units)**

Please choose **6 credit units** of open electives.

## **University Course Challenge – April 2023**

The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge, and by the relevant college-level Academic Programs Committee, and are now submitted to the University Course Challenge for approval.

Contact: Alexis Dahl ([alexis.dahl@usask.ca](mailto:alexis.dahl@usask.ca))

### **Classical, Medieval and Renaissance Studies**

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

##### **CMRS 406.3 Coinage in Ancient Greece and Rome**

1/2 (3S) This course on the study of numismatics (coinage and currency) from ancient Greece and Rome will serve as an introduction to the field of numismatics, and will show students how coins are used by historians, art historians and archaeologists as a valuable resource and area of research for these various fields. The course will cover the numismatic histories of ancient Greece and Rome touching on coins as currency, but also as a means of mass media, and as precious artworks. Students will have the opportunity to learn how to read and analyze coins using original specimens housed in the Museum of Antiquities collections.

Prerequisite(s): 9cu of Humanities courses, of which 3 credit units must be at the 300 level or above, or permission of the instructor or program director.

Note: Some background in ancient Greek and/or Roman history is recommended but not required.

Instructor(s): Tracene Harvey

Rationale: Enhances the History Department's course offerings at the 400-level, partly in response to student demand for more choice at this level.

### **Computer Science**

#### **Minor course revisions**

##### **CMPT 140.3 Introduction to Creative Computing**

Change to Note:

Old Note: Recommended for students who do not have Computer Science 30. CMPT 140 can be taken for credit after the completion of CMPT 100, but CMPT 100 cannot be taken for credit after completion of CMPT 140. Students with credit for CMPT 105, CMPT 111, CMPT 113, or CMPT 116 cannot obtain credit for CMPT 140. Students majoring the Computer Science and Applied Computing programs may not use CMPT 140 as a course in their major, but may count it as a junior elective. Students may receive credit for only one of CMPT 140 or BINF 151.

New Note: Recommended for students who do not have Computer Science 30. CMPT 140 can be taken for credit after the completion of CMPT 100, but CMPT 100 cannot be taken for credit after completion of CMPT 140. Students with credit for CMPT 105, CMPT 111, CMPT 113, CMPT 116, CMPT141, or CMPT142 cannot obtain credit for CMPT 140. Students majoring in the Computer Science and Applied Computing programs may not use CMPT 140 as a course in their major, but may count it as a junior elective. Students may receive credit for only one of CMPT 140 or B

Rationale: Added clarification that students with credit for CMPT 141.3 or 142.3 may not later take CMPT 140 for credit. Added missing "in" to the third sentence.

##### **CMPT 141.3 Introduction to Computer Science**

Prerequisite change:

Old prerequisite: One of (Computer Science 30, CMPT 105.3, CMPT 140.3, BINF 151.3) and one of (Mathematics B30, Foundations of Mathematics 30, Pre-Calculus 30); or MATH 110.3, MATH 123.3, MATH 133.4 or MATH 176.3 (can be taken concurrently).

New prerequisite: Prerequisite: One of (Computer Science 30, CMPT 105.3, CMPT 140.3, BINF 151.3) and one of (Mathematics B30, Foundations of Mathematics 30, Pre-Calculus 30); or MATH 110.3, MATH 123.3, MATH 133.4, MATH 163.3, or MATH 176.3 (can be taken concurrently).

Rationale: Students in Applied Computing and Computer Science must take both calculus (MATH 110 or equivalent) and MATH 163. Adding MATH 163 as an option here will accommodate students taking these courses in either order.

### **CMPT 145.3 Principles of Computer Science**

Prerequisite change:

Old prerequisite: CMPT 141; or CMPT 111 and permission of the department.

New prerequisite: (CMPT 141.3 or CMPT 142.3 or (CMPT 111.3 and permission of the department)).

Rationale: Add CMPT 142 (equivalent to CMPT 141) as an alternate prerequisite.

### **CMPT 214.3 Programming Principles and Practice**

Prerequisite change:

Old prerequisite: CMPT 145 or CMPT 115 or CMPT 117

New prerequisite: CMPT 145.3 or CMPT 146.3 or CMPT 115.3 or CMPT 117.3

Rationale: See CMPT 145 above.

### **CMPT 215.3 Introduction to Computer Organization and Architecture**

Prerequisite change:

Old prerequisite: CMPT 214 and one of MATH 104, MATH 110, MATH 121, MATH 123, MATH 125, MATH 176 or STAT 245 (or equivalent).

New prerequisite: CMPT 214.3; and one of MATH 104.3, MATH 110.3, MATH 121.3, MATH 123.3, MATH 125.3, MATH 133.4, MATH 163.3, MATH 176.3 or STAT 245.3 (or equivalent).

Rationale: MATH 163: See CMPT 141 above. MATH 133 is added as it is the introductory calculus course taken by Engineering students and is accepted in lieu of MATH 110 by Arts & Science.

### **CMPT 260.3 Mathematical Logic and Computing**

Prerequisite change:

Old prerequisite: MATH 110 or MATH 176; and one of CMPT 145, CMPT 115, or CMPT 117.

New prerequisite: One of (CMPT 145.3, CMPT 146.3, CMPT 115.3, or CMPT 117.3); and one of (MATH 110.3, MATH 133.4, MATH 163.3, or MATH 176.3).

Rationale: MATH 163 and MATH 133: See CMPT 215 above. CMPT 146: See CMPT 145 above.

### **CMPT 270.3 Developing Object Oriented Systems**

Prerequisite change:

Old prerequisite: One of CMPT 145.3, CMPT 146.3, CMPT 115.3, or CMPT 117.3; and one of MATH 104.3, MATH 110.3, MATH 121.3, MATH 123.3, MATH 125.3, MATH 133.4, MATH 176.3, or STAT 245.3 (or equivalent).

New prerequisite: One of (CMPT 145.3, CMPT 146.3, CMPT 115.3, or CMPT 117.3); and one of (MATH 104.3, MATH 110.3, MATH 121.3, MATH 123.3, MATH 125.3, MATH 133.4, MATH 163.3, MATH 176.3, or STAT 245.3 (or equivalent)).

Rationale: See CMPT 141 above.

### **CMPT 394.3 Simulation Principles**

Prerequisite/co-requisite change:

Old prerequisite: CMPT 270.

Old co-requisite: One of STAT 242, 245, or EE 216 (STAT 242 preferred.)

New prerequisite: CMPT 270.3; and MATH 110.3; and one of STAT 242.3 (preferred), STAT 245.3 or EE 216.3)

Change in laboratory hours: Add 1.5 lab hours per week.

Rationale: Students will be able to take CMPT 270 without having calculus, so that now needs to be added to the prerequisites for CMPT 394. The instructor of this course has requested additional in-class practical application/mentoring time.

## **French**

### **Deletion of Lower-Level of Concentration**

#### **French - Recognition**

Rationale: Students will now be better served by choosing one of the Certificate programs available in French (Intermediate French Language and Culture, Advanced French Language and Culture, or French-English Translation), especially as “Recognition” programs are not widely understood at other institutions or outside of a university setting. New students are not being accepted to this program in 2023-24.

## **History**

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

#### **HIST 416.3 Intoxicating History Alcohol and Drugs**

1/2 (3S) People around the world and throughout history have consumed plants, brews, chemicals and alkaloids in an effort to change consciousness. Some of these efforts are recreational, some ceremonial, and others part of medicine and experimentation. In this class we explore different ways that alcohol and drugs have been used in the past, by examining themes from different areas of the world. We examine how historians have contributed to popular understandings of drugs, alcohol, and intoxication and we consider what role social sciences and humanities scholars play in shaping our popular understandings of what makes good drugs and bad drugs, or how scholars and policy makers have determined limits for acceptable intoxicating behaviours and who has the privilege to be intoxicated, or who is criminalized for seeking intoxication. Rather than follow a chronological structure, in this course we examine how different psychoactive substances have been viewed in different places, from the perspectives of colonizers and colonized at different time points in history.

Prerequisite(s): 6 cu of senior HIST courses of which 3 credit units must be 300-level; or permission of the instructor or the department.

Instructor(s): Erika Dyck

Rationale: Improves department's offerings in the field, reflects the research interests of the instructor and responds to student demands.

## **Linguistics**

### **Minor program revisions**

#### **Bachelor of Arts Honours, Four-year and Three-year in Linguistics**

Add RLST 255.3 to the list of RLST courses that appears in the B4 Major Requirement for the program levels listed below. (No change to the Language and Speech Sciences Stream.)

#### **Bachelor of Arts Honours (B.A. Honours) - Linguistics**

**B4 Major Requirement (54 credit units)**

- One of: [LING 110.3](#) Introduction to Grammar, [LING 112.3](#) Dynamics of Language, or [LING 113.3](#) Language Use in the Digital Era
- [LING 111.3](#) Structure of Language
- [LING 253.3](#) Indigenous Languages of Canada
- [LING 403.3](#) Research Methods in Linguistics



- [LING 478.3](#) Honours Project

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

- LING - 200-Level, 300-Level or 400-Level
- [LING 110.3](#) Introduction to Grammar (100-Level LING courses are included as options, not required courses)

Note: No more than 12 credit units at the 100-Level may be used to satisfy the Major Requirements

Choose **21 credit units** from the following:

Language

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Religious Studies

- [RLST 111.3](#) Asian Religions
- [RLST 112.3](#) Western Religions in Society and Culture
- [RLST 113.3](#) Islamic Civilization and Culture
- [RLST 211.3](#) Introduction to Hinduism
- [RLST 214.3](#) Introduction to Philosophies of India
- [RLST 215.3](#) Indian Yoga Heritage
- [RLST 217.3](#) Buddhist Religious Tradition
- [RLST 218.3](#) Developments in Buddhist Thought
- [RLST 219.3](#) Bible and Western Culture
- RLST 230.3
- [RLST 231.3](#) Confucianism Continuity and Change
- [RLST 234.3](#) Chinese Religions
- [RLST 240.3](#) Introduction to Islam
- [RLST 241.3](#) Islam in the Modern World
- [RLST 253.3](#) Introduction to Old Testament
- [RLST 254.3](#) Introduction to New Testament
- [RLST 255.3](#) **Doukhobor Culture in Canada**
- [RLST 258.3](#) Religion and Culture in Bollywood Film
- [RLST 282.3](#) Religious Perspectives on Death and Dying
- [RLST 285.3](#) Religions and Ethnicity
- [RLST 321.3](#) Gender and God Talk
- [RLST 329.3](#) Studies in Bhagavad Gita
- [RLST 330.3](#) Daoism
- [RLST 359.3](#) Helpmates Harlots Goddesses and Heroines
- [RLST 361.3](#) Rabbinic Literature
- [RLST 363.3](#) Early Christian Literature Text and Context
- [RLST 365.3](#) Bible and Film

**Bachelor of Arts Four-year (B.A. Four-year) - Linguistics - General and Applied Linguistics Stream**  
B4 Major Requirement (42 credit units)

- [LING 111.3](#) Structure of Language

- One of [LING 110.3](#) Introduction to Grammar , [LING 112.3](#) Dynamics of Language , or [LING 113.3](#) Language Use in the Digital Era
- [LING 253.3](#) Indigenous Languages of Canada

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

- [LING 110.3](#) Introduction to Grammar (The 100-level LING courses are included as options, not required courses)
- [LING 200-Level, 300-Level, 400-Level](#)

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

Language

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Religious Studies

- [RLST 111.3](#) Asian Religions
- [RLST 112.3](#) Western Religions in Society and Culture
- [RLST 113.3](#) Islamic Civilization and Culture
- [RLST 211.3](#) Introduction to Hinduism
- [RLST 214.3](#) Introduction to Philosophies of India
- [RLST 215.3](#) Indian Yoga Heritage
- [RLST 217.3](#) Buddhist Religious Tradition
- [RLST 218.3](#) Developments in Buddhist Thought
- [RLST 219.3](#) Bible and Western Culture
- RLST 230.3
- [RLST 231.3](#) Confucianism Continuity and Change
- [RLST 234.3](#) Chinese Religions
- [RLST 240.3](#) Introduction to Islam
- [RLST 241.3](#) Islam in the Modern World
- [RLST 253.3](#) Introduction to Old Testament
- [RLST 254.3](#) Introduction to New Testament
- [RLST 255.3](#) **Doukhorbor Culture in Canada**
- [RLST 258.3](#) Religion and Culture in Bollywood Film
- [RLST 282.3](#) Religious Perspectives on Death and Dying
- [RLST 285.3](#) Religions and Ethnicity
- [RLST 321.3](#) Gender and God Talk
- [RLST 329.3](#) Studies in Bhagavad Gita
- [RLST 330.3](#) Daoism
- [RLST 359.3](#) Helpmates Harlots Goddesses and Heroines
- [RLST 361.3](#) Rabbinic Literature
- [RLST 363.3](#) Early Christian Literature Text and Context
- [RLST 365.3](#) Bible and Film

### **Bachelor of Arts Three-year (B.A. Three-year) - Linguistics**

**B4 Major Requirement (36 credit units)**

- [LING 111.3](#) Structure of Language

- One of [LING 110.3](#) Introduction to Grammar , [LING 112.3](#) Dynamics of Language , or [LING 113.3](#) Language Use in the Digital Era
- [LING 253.3](#) Indigenous Languages of Canada

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

- [LING 200-Level, 300-Level or 400-Level](#)
- [LING 110.3](#) Introduction to Grammar (The 100-level LING courses are included as options, not required courses)

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

Linguistics

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Religious Studies

- [RLST 111.3](#) Asian Religions
- [RLST 112.3](#) Western Religions in Society and Culture
- [RLST 113.3](#) Islamic Civilization and Culture
- [RLST 211.3](#) Introduction to Hinduism
- [RLST 214.3](#) Introduction to Philosophies of India
- [RLST 215.3](#) Indian Yoga Heritage
- [RLST 217.3](#) Buddhist Religious Tradition
- [RLST 218.3](#) Developments in Buddhist Thought
- [RLST 219.3](#) Bible and Western Culture
- RLST 230.3
- [RLST 231.3](#) Confucianism Continuity and Change
- [RLST 234.3](#) Chinese Religions
- [RLST 240.3](#) Introduction to Islam
- [RLST 241.3](#) Islam in the Modern World
- [RLST 253.3](#) Introduction to Old Testament
- [RLST 254.3](#) Introduction to New Testament
- [RLST 255.3](#) **Doukhobor Culture in Canada**
- [RLST 258.3](#) Religion and Culture in Bollywood Film
- [RLST 282.3](#) Religious Perspectives on Death and Dying
- [RLST 285.3](#) Religions and Ethnicity
- [RLST 321.3](#) Gender and God Talk
- [RLST 329.3](#) Studies in Bhagavad Gita
- [RLST 330.3](#) Daoism
- [RLST 359.3](#) Helpmates Harlots Goddesses and Heroines
- [RLST 361.3](#) Rabbinic Literature
- [RLST 363.3](#) Early Christian Literature Text and Context
- [RLST 365.3](#) Bible and Film

Rationale: The B4 list includes many RLST courses due to the intertwining of religion, culture, and language. RLST 255 should have been added when it was introduced in 2016-17. The main instructor for this course is Dr. Veronika Makarova, a linguist who has done extensive research on Doukhobor language and culture; the content of this class would thus be relevant to students in linguistics.

## **Mathematics**

### **Minor course revisions:**

#### **MATH 276.3 Vector Calculus**

Change in laboratory hours: Remove laboratory.

Rationale: Because of a redesign of the course that was approved in 2018, which included the introduction of MATH 164 as a prerequisite for 276, it is now possible to get more out of the usual lecture time. In particular, having MATH 164 as a prerequisite means that less linear algebra needs to be taught from scratch in 276, which is one of the reasons why it is possible to cover more of the practice problem material from the labs as examples during the lectures themselves. For the past two years, the labs have been used simply as drop-in office hours. This shift has not changed the overall performance of students, as most of the lab content is now taught within the lectures, and so students receive exposure to key examples there. It is becoming extremely difficult to schedule the labs at times that do not conflict with other required MATH courses or with physics labs for Physics and Mathematical Physics students who take 276, and so removing the lab will reduce the number of time conflict overrides required each year.

#### **MATH 277.3 Vector Calculus II**

Change in laboratory hours: Remove laboratory.

Rationale: Because of a redesign of the course and its prequel (MATH 276) that was approved in a 2018 Course Challenge, it is now possible to get more out of the usual lecture time. In particular, having MATH 164 as a prerequisite for 276 means that less linear algebra needs to be taught from scratch in both 276 and 277, which is one of the reasons why it is possible to cover more of the practice problem material from the labs as examples during the lectures themselves. For the past two years, the labs have been used simply as drop-in office hours. This shift has not changed the overall performance of students, as most of the lab content is now taught within the lectures, and so students receive exposure to key examples there. It is also becoming extremely difficult to schedule the labs at times that do not conflict with other required MATH courses or with physics labs for Physics and Mathematical Physics students who take 277, and so removing the lab will reduce the number of time conflict overrides required each year.

## **Regional and Urban Planning**

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

#### **PLAN 481.3 Land Use and Transportation Planning**

1 (3L) This course introduces the emerging land use and transportation planning issues, policies, trends, modelling, and analytical tools. It focuses on the areas of land use and transportation systems integration, public transport planning and operations, and planning for active transportation and shared-mobility options. Students will understand and learn how to adapt evidence-based approaches to evaluate land use and transportation systems performance.

Prerequisite(s): GEOG 240.3 and PLAN 360.3; or permission of the instructor.

Instructor(s): Ehab Diab

Rationale: Cities across Canada are building new transport infrastructure to improve people's accessibility to different desired opportunities. However, how to measure and use the concept of accessibility to understand the combined performance of land use and transportation systems, which is an emerging approach in planning practice, is not covered by courses in USask. In fact, more plans are providing detailed analyses of the benefits brought by different land use and transportation projects, utilizing accessibility measures. This new course will provide senior undergraduate students with a good understanding of the importance of land use and transportation systems integration, and emerging land use and transportation planning issues, policies, trends, modelling, and analytical tools. Additionally, they will be gaining practical experience in developing accessibility measures by different modes, by applying

them in different assignments and the final project. In other words, students will understand and learn how to adapt evidence-based approaches to evaluate land use and transportation systems performance.

This course will be cross-listed with **GEOG 881** (Land use and transportation planning), which is already offered to graduate students and others (professionals, policymakers, etc.) who are completing the Environmental Planning Certificate offered by the Geography and Planning department.

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### **Items for Information**

The policy revision listed below was approved through the Arts & Science College Course and Program Challenge and is now submitted to the University Course Challenge for information.

### **Archaeology and Anthropology**

#### **Minor course revisions**

#### **ANTH 405.3 Anthropology of Disaster and Dislocation**

Prerequisite change:

Old prerequisite: 3 credit units of 300 level ANTH, or permission of the instructor.

New prerequisite: 3 credit units 200-level ANTH, or permission of instructor.

Change to Note:

Old Note: Students who have received credit for ANTH 498.3: Anthropology of Disaster and Disruption may not take this course for credit.

New Note: Students who have received credit for ANTH 405.3 may not receive credit for ANTH 306.

New course number: **306.3**

Rationale: This minor revision moves the course from a 400-level to 300-level. This change is part of the implementation of the new combined Anthropology undergraduate degree program (bringing together the former anthropology and archaeology programs). The new combined program added a capstone 400-level course, ANTH 400, and this requires some revisions to other 400 level courses. Shifting ANTH 405 to the 300 level creates more flexibility to accommodate this new course, since faculty complement limits the overall number of 400-level course that can be offered. This change also opens up this course to a larger number of students by reducing the prerequisite and moving it to the 300 level.

This course was offered as ANTH 498.3 once, in 201501. No student from that section is still enrolled, and the likelihood of anyone returning who would attempt to register again is very low.

#### **ANTH 457.3 Zooarchaeology I - correction from March 2023**

New course number: **358.3** ~~305.3~~

Rationale: Moving this course to the 300-level will help to make this first course in zooarchaeology more accessible to students, and potentially increase enrolment. The prerequisite for this course (ARCH 250.3) creates no barrier to moving this course to the 300-level. (Correction: The number "305" is already used for another course.)

## College of Engineering - University Course Challenge Submission, April 2023

The following changes have been approved through the College of Engineering and are being submitted here for approval through University Course Challenge.

Contact: Temi Ojo ([temitope.ojo@usask.ca](mailto:temitope.ojo@usask.ca))

### **New Course Creation – Department of Mechanical Engineering**

**MOTION:** The Department of Mechanical Engineering would like to make ME 464 (Introduction to Composite Materials) a permanent course in 2023-24, as follows:

#### **ME 464.3 Introduction to Composite Materials Term 1 or 2 (3L)**

The course covers topics intended to introduce various aspects of composite materials. Design and mechanical behaviour of composite materials will be introduced. Topics will include reinforcement and matrix materials, manufacturing methods, composite applications, analysis of composite systems using micromechanics, orthotropic lamina theory, macromechanics and failure analysis of laminates.

**Prerequisite:** ME 323 (a taken prerequisite)

**Rationale:** In the past, ME 464 has been offered twice as a ME 498 special topics course and the department now wants to make it a permanent course. This will be a T1 or T2 technical elective course.

**The new course will be included in the Bachelor of Science in Engineering – Mechanical Engineering program as follows:**

**(Changes highlighted in red):**

### **Mechanical Engineering**

Bachelor of Science in Engineering (B.E.) - Mechanical Engineering (152 credit units)

#### **Year 1 (41-44 credit units)**

All Engineering programs have a [common](#) first year.

#### **Year 2 (36 credit units)**

Fall Term

- [GE 210.3](#) Probability and Statistics
- [GE 213.3](#) Mechanics of Materials
- [MATH 223.3](#) Calculus III for Engineers
- [ME 214.3](#) Introduction to Materials and Manufacturing
- [ME 227.3](#) Thermodynamics I

## Winter Term

- [MATH 224.3](#) Calculus IV for Engineers
- [ME 215.3](#) Fluid Mechanics I
- [ME 226.3](#) Mechanics III
- [ME 229.3](#) Introduction to Mechanical Engineering Design
- [RCM 200.3](#) Effective Professional Communication

## Fall or Winter Term

- 3 credit units Junior Humanities or Social Science Elective
- 3 credit units Science Elective

## Year 3 (36 credit units)

### Fall Term

- [ME 313.3](#) Mechanics of Materials I
- [ME 321.3](#) Engineering Analysis II
- [ME 324.3](#) Engineering Materials
- [ME 327.3](#) Heat Transfer
- [ME 330.3](#) Manufacturing Processes

### Winter Term

- [ME 314.3](#) Machine Design I
- [ME 323.3](#) Mechanics of Materials II
- [ME 328.3](#) Mechanical Engineering Laboratory I
- [ME 329.3](#) Collaborative Design and Manufacturing
- [ME 335.3](#) Fluid Mechanics II
- [ME 352.3](#) Engineering Analysis III

### Fall Term or Winter Term

- [GE 348.3](#) Engineering Economics

## Year 4 (36 credit units)

### Fall Term

- [ME 417.3](#) Thermodynamics II
- [ME 418.3](#) Mechanical Engineering Laboratory II
- [ME 431.3](#) Control Systems

### Winter Term

- [GE 449.3](#) Engineering in Society

## Fall Term and Winter Term

Choose 6 credit units from the following:

- [GE 495.6](#) Technological Innovation Capstone Design Project (Department permission required)
- [ME 495.6](#) Industrial Design Project

## Fall Term or Winter Term

- 12 credit units Technical and Design Electives (of which 6 credit units must be from the Design Elective list)
- 3 credit units Complementary Studies Elective
- 3 credit units Senior Humanities or Social Science Elective

## Electives

### Science Elective

- [ASTR 213.3](#) Astronomical Photometry
- [ASTR 214.3](#) Astronomical Spectroscopy
- [BIOL 120.3](#) The Nature of Life
- [CHEM 221.3](#) Analytical Chemistry I
- [CHEM 231.3](#) Inorganic Chemistry I
- [CHEM 242.3](#) Thermodynamics and Kinetics
- [CHEM 250.3](#) Introduction to Organic Chemistry
- [EVSC 203.3](#) Sampling and Laboratory Analysis
- [EVSC 210.3](#) Environmental Physics
- [GEOG 120.3](#) Introduction to Global Environmental Systems
- [GEOL 121.3](#) Earth Processes
- [GEOL 224.3](#) Mineralogy
- [GEOL 245.3](#) Introduction to Sedimentary Rocks
- [GEOL 258.3](#) Structural Geology
- [PHYS 125.3](#) Physics and Technology

### 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 377.3](#) Fundamentals of Mining and Mineral Processing
- [GEOE 466.3](#) Petroleum Geomechanics

### Term 2



- [BLE 313.3](#) Instrumentation
- [CHE 464.3](#) Petroleum Production Engineering
- [EE 471.3](#) Introduction to Micro and Nanotechnology
- [GEOE 380.3](#) Mine Ventilation
- [ME 460.3](#) Automation and Robotics in Manufacturing
- ME 461.3
- ME 463.3
- ME 472.3
- [ME 475.3](#) Introduction to Mechatronics
- [ME 477.3](#) Engineering Materials II
- [ME 478.3](#) Introduction to Fire Protection Engineering

### Term 1 or Term 2

- [CHE 453.3](#) Corrosion Engineering
- [ME 450.3](#) Finite Element Analysis
- [ME 462.3](#) Structure and Properties of Polycrystalline Materials
- [ME 464.3](#) Introduction to Composite Materials
- [ME 471.3](#) Introduction to Aerodynamics
- [ME 473.3](#) Introduction to Computational Fluid Dynamics
- [ME 476.3](#) Multiphase Flow and Heat Transfer
- [ME 488.3](#) Mechanical Engineering Research Project
- approved senior course(s) from science or engineering

### Minor Course Revisions

**1). MOTION:** To add EE368 as a prerequisite for EE467. Prerequisite for EE 467 will be changed from ~~EE 466.3~~ to **EE 368 and EE 466**

**RATIONALE:** The original intent was to have this also as a prerequisite for EE467. This was an omission when the AMR stream was approved by the UAPC.

**2). MOTION:** Add EE467 as a prerequisite for EE464. Prerequisite for EE 464 will be changed from ~~EE 469.3~~ to **EE 467 and EE 469**

**RATIONALE:** The original intent was to have this also as a prerequisite for EE464. This was an omission when the AMR stream was approved by the UAPC.

**3). MOTION:** Add EE382 as a prerequisite for EE469. Prerequisite for EE 469 will be changed from ~~EE 368.3~~ to **EE 368 and EE 382**

**RATIONALE:** The original intent was to have this also as a prerequisite for EE469. This was an omission when the AMR stream was approved by the UAPC.

**4). MOTION:** Make EE461 a pre-requisite for EE465. Prerequisite for EE 465 will be changed from ~~EE-456~~ to **EE 456 and EE 461**

**RATIONALE:** This is a ripple effect of removing the co-requisite link between EE456 and EE461. Right now, the only pre-requisite for EE465 is listed as EE456. However, EE461 is also a pre-requisite for EE465

because it is a co-requisite for EE456. Therefore, if we remove the co-requisite link between EE456 and EE461, EE461 must be listed as a prerequisite for EE465.

**5). MOTION:** Make EE467 and EE469 **pre/co-requisites** of each other.

**RATIONALE:** The original intent was to have these courses as co-requisites of each other. This was an omission when the AMR stream was approved by the UAPC.

**6). MOTION:** Remove the requirement for EE456 and EE461 to be co-requisites of each other.

**RATIONALE:** The material given in lecture component of these two classes is independent. However, in the past the labs were dependent. The labs for these two classes are given in alternate weeks. Originally, the labs were interlaced into a sequence of weekly labs with each dependent on the previous. Over time the labs for the two classes have changed and are no longer dependent of each other. Therefore, there is no reason for the courses to be taken at the same time.

**The catalogue changes for Motions 5 and 6 would be as follows:**

**EE 456.3: Digital Communication**

Examines the transmission of information (voice, video or data) over a noisy channel and presents the ideas and techniques fundamental to digital communication systems. Emphasis is placed on system design goals and the need for trade-offs among basic 2 system parameters such as signal-to-noise ratio, probability of error, and bandwidth expenditure. Topics include binary baseband/passband data transmission, M-ary modulation techniques (QPSK, OQPSK, MSK, M-ASK, M-PSK, M-QAM and MFSK), signaling over band limited channels and methods to deal with ISI, and signaling over channels with amplitude and phase uncertainties.

Prerequisite(s): EE 365.

~~Prerequisite(s) or Corequisite(s): EE 461.~~

**EE 461.3: Digital Filter Design**

This course covers several techniques for designing and implementing digital filters with the primary objective of minimizing the number of multipliers used in the filters. The course gives insight into the effects of finite word length arithmetic on the performance of filters.

Prerequisite(s): EE 365.

~~Prerequisite(s) or Corequisite(s): EE 456.~~

**EE 467.3: Computer Vision**

This course focuses on aspects of digital image processing/computer vision where the inputs are images and the outputs are attributes extracted from those images. Topics include colour image processing, image compression, basic morphological image processing, edge detection, thresholding, region detection, feature extraction, and image pattern classification. The laboratory component focuses on the digital hardware implementation of attribute extraction algorithms.

Prerequisite(s): [EE 368](#) and [EE 466](#)

Prerequisite(s) or Corequisite(s): [EE 469.3](#)

### **EE 469.3: Mobile Robotics II**

This course covers some of the more advanced concepts and techniques of autonomous mobile robotics. The primary focus of the course is mobile robot mapping, probabilistic based localization, and mobile robot motion control including techniques for vision-based control.

Prerequisite(s): [EE 368](#) and [EE 382](#)

Prerequisite(s) or Corequisite(s): [EE 467.3](#)

## College of Graduate and Postdoctoral Studies, University Course Challenge – April 2023

The following new courses and curricular changes have been approved by the College of Graduate and Postdoctoral Studies and are now being submitted to University Course Challenge for approval:

Contact: Melissa Kyrejto ([melissa.kyrejto@usask.ca](mailto:melissa.kyrejto@usask.ca))

### **Geology**

#### **New course:**

#### **GEOL 864.3: Advances in Green Energy Geoscience**

The course will examine advanced topics regarding green energy, such as solar, wind, geothermal, hydroelectric, tidal, and nuclear. The use of resources, e.g., critical materials, and issues associated with the generation and storage of energy, and the importance of the circular economy, will be discussed using lectures and student projects.

Prerequisite(s) or Restriction(s): Permission of the instructor.

Note(s): This course is a hybrid course with GEOL 464, and this course cannot be taken for credit after previously taking GEOL 464.

Instructor: Kevin Ansdell

Rationale: The aim is for the course to attract students from across disciplines to spark cross-disciplinary discussion and provide different perspectives. During its offering as a GEOL 898 course, graduate students from Geology, Chemistry, and Environment and Sustainability (SENS) have successfully completed the course. The course will be of interest to graduate students in the School of Environment and Sustainability, and the Johnson-Shoyama Graduate School of Public Policy, or for any graduate student in any program across campus involving research into green energy that would benefit from the complementary geoscience perspective.

Approved by CGPS' Graduate Programs Committee on April 4<sup>th</sup>, 2023.

### **Johnson Shoyama Graduate School of Public Policy**

#### **Program modification:**

#### **Master of Public Administration (M.P.A.) - Course-based**

The Master of Public Administration is the flagship professional program of the Johnson-Shoyama Graduate School of Public Policy, ~~western Canada's newest School of Public Policy. Created by pooling resources from the University of Saskatchewan and the University of Regina, the School~~ The program builds on the reputation and experience of developed in a province renowned for innovation and professionalism ~~service~~ in public policy and administration.

The M.P.A. is an exciting program designed to prepare students for success ~~careers in policy work~~ in such diverse areas as non-governmental organizations (NGOs), industry associations and, of course, the public service. Students in the program build their knowledge and skills in three critical areas: evidence and strategic thinking, connection and collaboration, and implementation and improvement. ~~will be exposed to core concepts in policy formation and analysis; they will also have the opportunity to explore areas such as health and social policy; science, technology and innovation; and trade and transnational regulation.~~

For more information on this field of study, see the Master of Public Administration website.

## Admission Requirements

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### Course Option - Degree Requirements

Students in the M.P.A. program must achieve a minimum of 70% in each course to earn course credit and progress through program completion.

- GPS 960.0
- GPS 961.0
- GPS 962.0
- ~~JSGS 990.0~~

A minimum 36 credit units, including the following:

- JSGS 801.3
- JSGS 802.3
- JSGS 805.3
- JSGS 806.3
- JSGS 807.3
- JSGS 808.3
- JSGS 838.3
- JSGS 882.3
- JSGS 891.3
- JSGS 892.3
- a minimum 6 credit units electives. Elective courses taken outside of JSGS course offerings require approval of the Graduate Chair.

Rationale: JSGS wants to update the MPA preamble on the program catalogue to better reflect the MPA program. JSGS wants to align the student experience and streamline administration at its two campuses. The University of Regina (URegina) campus and the University of Saskatchewan (USask) campus both offer the MPA program but with one key difference: the program at USask includes a 990 requirement but the Uregina program does not. JSGS seeks to remove the JSGS 990 requirement at USask to gain internal alignment. The change is consistent with delivery of the Master of Business Administration at USask, which has no JSGS 990 requirement. JSGS is engaged in a project with CGPS to strengthen 990 requirements across USask degrees. The project is focused on using 990s to develop professional competencies which are already embedded in the course based, professional MPA degree.

Approved by CGPS' Graduate Programs Committee on April 4<sup>th</sup>, 2023.

**Course modification:**

**JSGS 990.0: Public Policy Seminar**

Current course description: Features reports and discussion on current research and policy issues. All students in the MPA program are required to register. Attendance at a certain number of seminars and at least one presentation are required by all students during the period of their candidacy.

Proposed course description: A required non-credit seminar for graduate students in the MPP and PhD programs. The course features reports and discussions on current research and policy issues presented by students, researchers, policy practitioners, and faculty. Students must attend at least 25 seminars and present their own research in one session before completing their program of study.

Rationale: JSGS wants to align the student experience and streamline administration at its two campuses. The University of Regina (URegina) campus and the University of Saskatchewan (USask) campus both offer the MPA program but with one key difference: the program at USask includes a 990 requirement but the U of R program does not. We are seeking to remove the 990 requirement for students in the MPA program through a minor program change of the MPA, which is in process. Updating the calendar description of JSGS 990 is a step in this process to remove mention of the MPA program.

Approved by CGPS' Graduate Programs Committee on April 4<sup>th</sup>, 2023.

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**Items For Information**

The following new courses and curricular changes have been approved by the College of Graduate and Postdoctoral Studies and are now being submitted to University Course Challenge for information.

**Course modification(s):**

**AREC 840.3: Economics of Agri-Food Marketing**

Current course note: Students interested in a specialization in agricultural marketing should take both AREC 840 and 842. Students with credit for AGECE 840 or BPBE 840 may not take this course for credit.

Proposed course note: Students with credit for BPBE 840 may not take this course for credit.

Rationale: This note goes back many years and the unit believes it is no longer needed.

**AREC 842.3: Agricultural Market Organizations**

Current course note: Students interested in a specialization in agricultural marketing should take both AREC 840 and 842. Students with credit for AGECE 842 or BPBE 842 may not take this course for credit.

Proposed course note: Students with credit for BPBE 842 may not take this course for credit.

Rationale: This note goes back many years and the unit believes it is no longer needed.

## **College of Nursing – April 2023 University Course Challenge**

### **Correction**

The following note in red is being added to this new course, approved through University Course Challenge on March 31, 2023:

#### **NURS 120.3 Human Anatomy for Nursing 1/2 (3L)**

An introductory to human anatomy course that uses a combined regional and systemic approach to examine the relationships and organization of the major structures within the thorax, abdomen, head/neck, and back/limbs regions of the body. The gross anatomy course uses a systems approach to prepare students to understand relationships among structures that contribute to the functioning of organ systems.

**Prerequisite(s) or Corequisite(s):** BIOL 120.3

**Note:** This course fulfills requirements for application to the College of Nursing, Bachelor of Science in Nursing Program but will not be counted for credit toward programs offered in the College of Arts and Science.

**Rationale:** The note will provide students with clarity prior to making registration decisions.

## University Course Challenge – April 2023

The following curricular change was approved by the College of Pharmacy and Nutrition – [Pharmacy Program Advisory Committee and Division of Pharmacy (March 3, 2023)] and is being submitted to the April 2023 course challenge for approval.

Contact: Dr. Charity Evans ([charity.evans@usask.ca](mailto:charity.evans@usask.ca) )

### New Course

#### **PHAR 221.3**

Title: Radiopharmacy

Personalized and precision medicine employs molecular imaging for patient diagnosis and prognosis. Radiopharmaceuticals enable molecular imaging. Radiopharmacies and radiopharmaceutical companies manufacture radiopharmaceuticals and supply them to hospitals. In addition, several important radiopharmaceuticals including recently approved ones are used in the therapy of cancer, thyroid disease, and other conditions.

Prerequisite(s): PHAR 290.0

Restriction(s): Completion of Year 1 of the PharmD program

**Rationale:** Year 2 of the Pharm.D. program requires students complete a 3 credit unit PHAR elective in Term 2. This course was previously offered as a special topics course.