



## Academic Programs Committee of Council

### University Course Challenge

#### Scheduled posting: June 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 Medicine  
School of Environment and Sustainability

**Approval:** Date of circulation: June 15, 2023,  
Date of effective approval if no challenge received: June 30, 2023

#### Next scheduled posting:

The next scheduled posting will be August 17, 2023, with a submission deadline of **August 15, 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 – June 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:

### Program Revisions:

**Motion:** to add **GEOG 380.3** (*Environmental Geography of the Circumpolar North*) into the Bachelor of Science in Renewable Resource Management [B.Sc. (RRM)] degree, within the Resource Economics and Policy (REP) specialization, where needed.

**Rationale:** This GEOG 380.3 course has been approved by the College of Agriculture and Bioresources Undergraduate Affairs Committee, as well as the *Agriculture and Resource Economics (ARE) Undergraduate Committee*, to be listed throughout the B.Sc. RRM – REP program as a course option, 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 select, should they choose to do so. This decision to use GEOG 380.3 has been a suggested replacement for this program, as recommended by Geography.

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

#### [Bachelor of Science in Renewable Resource Management \[B.Sc.\(RRM\)\] - Resource Economics and Policy \(120 credit units\):](#)

Sustainable use of our land, water and plant resources is increasingly recognized as a key societal goal in the 21st Century. Management of these resources requires a combination of applied science and management skills with an understanding of the broad societal context. Renewable Resource Management provides essential skills in resource management coupled with a broader understanding of the role of management in society. The Resource Economics and Policy field of study involves the development of policies directly relevant to the management of bioresources.

### **Minimum Requirements for Degree (120 credit units)**

## **Year 1 (30 credit units)**

- 3 credit units open electives
- [AGRC 113.3](#) Introduction to Agri Food Economics
- [BIOL 120.3](#) The Nature of Life or [BIOL 121.3](#) The Diversity of Life
- [CHEM 112.3](#) General Chemistry I Structure Bonding and Properties of Materials
- [ECON 111.3](#) Introductory Microeconomics

- [EVSC 110.3](#) Renewable Resources and Environment
- [GEOG 120.3](#) Introduction to Global Environmental Systems or [GEOL 206.3](#) Earth Systems
- [INDG 107.3](#) Introduction to Canadian Indigenous Studies
- [MATH 104.3](#) Elementary Calculus or [MATH 110.3](#) Calculus I or [MATH 125.3](#) Mathematics for the Life Sciences
- [RRM 114.3](#) Introductory Resource Economics and Policy

## Year 2 (30 credit units)

- 9 credit units open electives
- [AREC 220.3](#) History of Indigenous Agriculture in Canada
- [AREC 238.3](#) Natural Resource Economics
- [AREC 272.3](#) Introduction to Agricultural Economics
- [ENVS 201.3](#) Foundations of Sustainability
- [GEOG 280.3](#) Environmental Geography
- [PLSC 214.3](#) Statistical Methods or [STAT 245.3](#) Introduction to Statistical Methods
- [RCM 200.3](#) Effective Professional Communication

## Year 3 (30 credit units)

- 6 credit units open electives
- [AREC 315.3](#) Application of Microeconomic Theory to Agriculture or [ECON 277.3](#) Economics of the Environment
- [AREC 361.3](#) Intermediate Statistics and Decision Making
- [RRM 201.1](#) Geographical Information Systems
- [RRM 312.3](#) Natural Resource Management and Indigenous Peoples
- [RRM 323.2](#) Resource Data and Environmental Modeling
- one of [GEOG 385.3](#) Analysis of Environmental Management and Policy Making, [GEOG 386.3](#) Environmental Impact Assessment or [ENVE 381.3](#) Sustainability and Environmental Assessment

### Choose 9 credit units of restricted electives:

#### Emphasis

Students may use their restricted electives to take courses to achieve a general level of knowledge in resource economics and management, or they can choose to take a more prescribed set of courses within the curriculum that gives them greater depth of knowledge in specific areas of natural resource management, assessment and development. To achieve this, students may choose one emphasis from the four offered as part of their restricted electives. An emphasis consists of five courses from the prescribed list.

### Indigenous Resource Management

- [ASKI 102.3](#) Introduction to Legal Concepts in Resource Management
- [ASKI 103.3](#) Legal Process and Instruments in Resource Management
- [ASKI 202.1](#) Introduction to Land Management Frameworks and [ASKI 204.2](#) Introduction to the Duty to Consult
- ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
- ~~[GEOG 380.3](#) Environmental Geography of the Circumpolar North~~
- [INDG 241.3](#) Weaving Indigenous Science and Western Science
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 362.3](#) Aboriginal People and Northern Development
- [POLS 222.3](#) Indigenous Governance and Politics
- [POLS 322.3](#)
- [POLS 323.3](#) First Nations Policies and Programs

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### Sustainable Water/Energy/Food Systems

- [AGRC 211.3](#) Global Food Security
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 225.3](#) Hydrology of Canada
- ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
- ~~[GEOG 380.3](#) Environmental Geography of the Circumpolar North~~
- [PLAN 329.3](#)

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### Environmental Impact Assessment and Policy

- [AREC 451.3](#) Agricultural Policy Analysis
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
- [GEOG 386.3](#) Environmental Impact Assessment
- [INDG 321.3](#) International Indigenous Disaster Risk Reduction
- [POLS 226.3](#) Canadian Public Policy
- [POLS 322.3](#)
- [POLS 323.3](#) First Nations Policies and Programs
- [TOX 321.3](#) Risk Assessment and Regulatory Toxicology

### Development and the Environment

- [ECON 270.3](#) Development in Non Industrialized Countries
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 208.3](#) World Regional Development
- [GEOG 240.3](#) Sustainable Cities and Regions
- ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
- ~~[GEOG 380.3](#) Environmental Geography of the Circumpolar North~~
- [GEOG 386.3](#) Environmental Impact Assessment
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 361.3](#) Indigenous Community Development in the 21st Century

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### Restricted Electives

- [AGRC 111.3](#) Introduction to Plant and Soil Sciences
- [AGRC 211.3](#) Global Food Security
- [ANBI 375.3](#) Animals and the Environment
- [ANBI 420.3](#) Comparative Animal Endocrinology
- [ANTH 111.3](#) One World Many Peoples Introduction to Cultural Anthropology
- [ANTH 224.3](#) North American Plains Ethnography
- [ANTH 329.3](#) Environmental Anthropology
- [AREC 238.3](#) Natural Resource Economics
- [AREC 315.3](#) Application of Microeconomic Theory to Agriculture
- [AREC 342.3](#) Industrial Organization of Agricultural Markets
- [AREC 430.3](#) Advanced Natural Resource Economics
- [AREC 432.3](#) Rural Development Theory and Applications
- [AREC 451.3](#) Agricultural Policy Analysis
- [ASKI 102.3](#) Introduction to Legal Concepts in Resource Management
- [ASKI 103.3](#) Legal Process and Instruments in Resource Management
- [ASKI 202.1](#) Introduction to Land Management Frameworks and [ASKI 204.2](#) Introduction to the Duty to Consult
- [BIOL 323.3](#) Plant Systematics and Evolution
- [BIOL 412.3](#) Limnology
- BIOL 424.3
- [BIOL 475.3](#) Ecological Toxicology
- [CHEM 375.3](#) Environmental Chemistry
- [COMM 201.3](#) Introduction to Financial Accounting
- [COMM 347.3](#) Indigenous Business in Canada
- [ECON 211.3](#) Intermediate Microeconomics
- [ECON 231.3](#) Co operatives
- [ECON 270.3](#) Development in Non Industrialized Countries
- [ECON 275.3](#) Economics of Natural Resources
- [ECON 277.3](#) Economics of the Environment
- ECON 347.3
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [ENVE 432.3](#) Land Management and Reclamation
- [EVSC 220.3](#) Environmental Soil Science
- [EVSC 380.3](#) Grassland Soils and Vegetation
- [FABS 212.3](#) Agrifood and Resources Microbiology OR [BMSC 210.3](#) Microbiology
- FABS 360.3
- FABS 430.3
- [GEOG 150.3](#) Introduction to the Circumpolar World
- [GEOG 208.3](#) World Regional Development
- [GEOG 225.3](#) Hydrology of Canada
- [GEOG 233.3](#) Weather and Climate
- [GEOG 235.3](#) Earth Processes and Natural Hazards A Canadian Perspective
- [GEOG 240.3](#) Sustainable Cities and Regions
- GEOG 271.3
- [GEOG 280.3](#) Environmental Geography
- [GEOG 323.3](#) Remote Sensing
- [GEOG 328.3](#) Groundwater Hydrology

- GEOG 332.3
- [GEOG 351.3](#) Northern Environments
- GEOG 352.3
- GEOG 371.3
- [GEOG 380.3](#) Environmental Geography of the Circumpolar North
- [GEOG 381.3](#) Development in the Canadian North Issues and Challenges
- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
- [GEOG 386.3](#) Environmental Impact Assessment
- GEOG 462.3
- [GEOL 121.3](#) Earth Processes
- GEOL 312.3
- [GEOL 330.3](#) Climate History
- HIST 170.6
- [INDG 241.3](#) Weaving Indigenous Science and Western Science
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 321.3](#) International Indigenous Disaster Risk Reduction
- [INDG 361.3](#) Indigenous Community Development in the 21st Century
- [INDG 362.3](#) Aboriginal People and Northern Development
- [LAW 436.3](#) Aboriginal Law
- [PHIL 226.3](#) Environmental Philosophy
- PLAN 329.3
- PLSC 412.3
- [PLSC 413.3](#) Advanced Plant Ecology
- [PLSC 418.3](#) Management of Arable Grassland
- [PLSC 422.3](#) Rangeland Ecology and Management
- [PLSC 425.3](#) Forest Ecology
- [POLS 111.3](#) Democratic Citizenship in Canada or [POLS 112.3](#) Justice and Injustice in Politics and Law
- [POLS 222.3](#) Indigenous Governance and Politics
- [POLS 225.3](#) Canadian Public Administration and Administrative Law
- [POLS 226.3](#) Canadian Public Policy
- POLS 322.3
- [POLS 323.3](#) First Nations Policies and Programs
- [POLS 326.3](#) Comparative Public Policy
- [POLS 328.3](#) Public Policy Analysis
- POLS 425.3
- [SLSC 312.3](#) Soil Fertility and Fertilizers
- [SLSC 313.3](#) Environmental Soil Chemistry
- [SLSC 322.3](#) Environmental Soil Physics
- [SLSC 342.3](#) Agronomic Soil Microbiology
- [SLSC 444.3](#) Soil Ecology
- [SLSC 460.3](#) Forest Soils
- [SLSC 480.3](#) Soils and Boreal Landscapes
- [TOX 301.3](#) Environmental Toxicology
- [TOX 321.3](#) Risk Assessment and Regulatory Toxicology

Year 4 (30 credit units)

- 3 credit units open electives
- [AREC 430.3](#) Advanced Natural Resource Economics
- [ENVS 401.3](#) Sustainability in Action or [EVSC 485.3](#) Environmental Science Capstone Course
- [RRM 421.6](#) Group Project in Renewable Resource Management

Choose 15 credit units of restricted electives:

### **Emphasis**

Students may use their restricted electives to take courses to achieve a general level of knowledge in resource economics and management, or they can choose to take a more prescribed set of courses within the curriculum that gives them greater depth of knowledge in specific areas of natural resource management, assessment and development. To achieve this, students may choose one emphasis from the four offered as part of their restricted electives. An emphasis consists of five courses from the prescribed list.

#### **Indigenous Resource Management**

- [ASKI 102.3](#) Introduction to Legal Concepts in Resource Management
- [ASKI 103.3](#) Legal Process and Instruments in Resource Management
- [ASKI 202.1](#) Introduction to Land Management Frameworks and [ASKI 204.2](#) Introduction to the Duty to Consult
- ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
- [GEOG 380.3](#) Environmental Geography of the Circumpolar North
- [INDG 241.3](#) Weaving Indigenous Science and Western Science
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 362.3](#) Aboriginal People and Northern Development
- [POLS 222.3](#) Indigenous Governance and Politics
- [POLS 322.3](#)
- [POLS 323.3](#) First Nations Policies and Programs

#### **Sustainable Water/Energy/Food Systems**

- [AGRC 211.3](#) Global Food Security
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 225.3](#) Hydrology of Canada
- ~~[GEOG 381.3](#) Development in the Canadian North Issues and Challenges~~
- [GEOG 380.3](#) Environmental Geography of the Circumpolar North

- [PLAN 329.3](#)

#### **Environmental Impact Assessment and Policy**

- [AREC 451.3](#) Agricultural Policy Analysis
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
- [GEOG 386.3](#) Environmental Impact Assessment
- [INDG 321.3](#) International Indigenous Disaster Risk Reduction
- [POLS 226.3](#) Canadian Public Policy
- [POLS 322.3](#)

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- [POLS 323.3](#) First Nations Policies and Programs
- [TOX 321.3](#) Risk Assessment and Regulatory Toxicology

#### Development and the Environment

- [ECON 270.3](#) Development in Non Industrialized Countries
- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [GEOG 208.3](#) World Regional Development
- [GEOG 240.3](#) Sustainable Cities and Regions
- [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 386.3](#) Environmental Impact Assessment
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 361.3](#) Indigenous Community Development in the 21st Century

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#### Restricted Electives

- [AGRC 111.3](#) Introduction to Plant and Soil Sciences
- [AGRC 211.3](#) Global Food Security
- [ANBI 375.3](#) Animals and the Environment
- [ANBI 420.3](#) Comparative Animal Endocrinology
- [ANTH 111.3](#) One World Many Peoples Introduction to Cultural Anthropology
- [ANTH 224.3](#) North American Plains Ethnography
- [ANTH 329.3](#) Environmental Anthropology
- [AREC 238.3](#) Natural Resource Economics
- [AREC 315.3](#) Application of Microeconomic Theory to Agriculture
- [AREC 342.3](#) Industrial Organization of Agricultural Markets
- [AREC 430.3](#) Advanced Natural Resource Economics
- [AREC 432.3](#) Rural Development Theory and Applications
- [AREC 451.3](#) Agricultural Policy Analysis
- [ASKI 102.3](#) Introduction to Legal Concepts in Resource Management
- [ASKI 103.3](#) Legal Process and Instruments in Resource Management
- [ASKI 202.1](#) Introduction to Land Management Frameworks and [ASKI 204.2](#) Introduction to the Duty to Consult
- [BIOL 323.3](#) Plant Systematics and Evolution
- [BIOL 412.3](#) Limnology
- BIOL 424.3
- [BIOL 475.3](#) Ecological Toxicology
- [CHEM 375.3](#) Environmental Chemistry
- [COMM 201.3](#) Introduction to Financial Accounting
- [COMM 347.3](#) Indigenous Business in Canada
- [ECON 211.3](#) Intermediate Microeconomics
- [ECON 231.3](#) Co operatives
- [ECON 270.3](#) Development in Non Industrialized Countries
- [ECON 275.3](#) Economics of Natural Resources
- [ECON 277.3](#) Economics of the Environment
- ECON 347.3



- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [ENVE 432.3](#) Land Management and Reclamation
- [EVSC 220.3](#) Environmental Soil Science
- [EVSC 380.3](#) Grassland Soils and Vegetation
- [FABS 212.3](#) Agrifood and Resources Microbiology OR [BMSC 210.3](#) Microbiology
- FABS 360.3
- FABS 430.3
- [GEOG 150.3](#) Introduction to the Circumpolar World
- [GEOG 208.3](#) World Regional Development
- [GEOG 225.3](#) Hydrology of Canada
- [GEOG 233.3](#) Weather and Climate
- [GEOG 235.3](#) Earth Processes and Natural Hazards A Canadian Perspective
- [GEOG 240.3](#) Sustainable Cities and Regions
- GEOG 271.3
- [GEOG 280.3](#) Environmental Geography
- [GEOG 323.3](#) Remote Sensing
- [GEOG 328.3](#) Groundwater Hydrology
- GEOG 332.3
- [GEOG 351.3](#) Northern Environments
- GEOG 352.3
- GEOG 371.3
- [GEOG 380.3](#) Environmental Geography of the Circumpolar North
- [GEOG 381.3](#) Development in the Canadian North Issues and Challenges
- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
- [GEOG 386.3](#) Environmental Impact Assessment
- GEOG 462.3
- [GEOL 121.3](#) Earth Processes
- GEOL 312.3
- [GEOL 330.3](#) Climate History
- HIST 170.6
- [INDG 241.3](#) Weaving Indigenous Science and Western Science
- [INDG 265.3](#) Aboriginal People and Development
- [INDG 321.3](#) International Indigenous Disaster Risk Reduction
- [INDG 361.3](#) Indigenous Community Development in the 21st Century
- [INDG 362.3](#) Aboriginal People and Northern Development
- [LAW 436.3](#) Aboriginal Law
- [PHIL 226.3](#) Environmental Philosophy
- PLAN 329.3
- PLSC 412.3
- [PLSC 413.3](#) Advanced Plant Ecology
- [PLSC 418.3](#) Management of Arable Grassland
- [PLSC 422.3](#) Rangeland Ecology and Management
- [PLSC 425.3](#) Forest Ecology
- [POLS 111.3](#) Democratic Citizenship in Canada or [POLS 112.3](#) Justice and Injustice in Politics and Law
- [POLS 222.3](#) Indigenous Governance and Politics
- [POLS 225.3](#) Canadian Public Administration and Administrative Law
- [POLS 226.3](#) Canadian Public Policy
- POLS 322.3

- [POLS 323.3](#) First Nations Policies and Programs
- [POLS 326.3](#) Comparative Public Policy
- [POLS 328.3](#) Public Policy Analysis
- POLS 425.3
- [SLSC 312.3](#) Soil Fertility and Fertilizers
- [SLSC 313.3](#) Environmental Soil Chemistry
- [SLSC 322.3](#) Environmental Soil Physics
- [SLSC 342.3](#) Agronomic Soil Microbiology
- [SLSC 444.3](#) Soil Ecology
- [SLSC 460.3](#) Forest Soils
- [SLSC 480.3](#) Soils and Boreal Landscapes
- [TOX 301.3](#) Environmental Toxicology
- [TOX 321.3](#) Risk Assessment and Regulatory Toxicology

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**Motion:** to add ASKI 201.3 and ASKI 204.2 as course alternatives to RRM 201.1 and RRM 323.2 in the Resource Science major within the [Bachelor of Science in Renewable Resource Management \[B.Sc. \(RRM\)\]](#) degree. This would mean that a student could take any course combination that results in 3 credit units for this specific degree requirement.

**Rationale:** These additional, existing ASKI courses have been approved by the College of Agriculture and Bioresources *Undergraduate Affairs Committee*, as well as the *Soil Science (SLSC) Undergraduate Committee* to be listed as alternatives as identified above. This would all students more course options, as well as allow more students to take these ASKI-specific courses. In addition, the course content in both ASKI 201.3 and ASKI 204.2 fits very well within this major and students would benefit from this additional knowledge if they are permitted to take these alternative courses.

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

Sustainable use of our land, water and plant resources is increasingly recognized as a key societal goal in the 21st Century. Management of these resources requires a combination of applied science and management skills with an understanding of the broad societal context. Renewable Resource Management provides essential skills in resource management coupled with a broader understanding of the role of management in society. The Resource Science field of study provides students with hands-on, practical experience in field measurement and assessment.

Students transferring under an articulation agreement, or who have been granted block transfer credit must take a prescribed set of courses. For additional information, or to determine eligibility for block transfer, contact the Director of Academic and Student Services in the Dean's Office, College of Agriculture and Bioresources.

# Minimum Requirements for Degree (120 credit units)

Students are required to achieve a 60% Cumulative Weighted Average on 120 credit units of approved courses.

## Year 1 (30 credit units)

- 3 credit units open electives
- [BIOL 120.3](#) The Nature of Life
- [BIOL 121.3](#) The Diversity of Life
- [CHEM 112.3](#) General Chemistry I Structure Bonding and Properties of Materials
- [ECON 111.3](#) Introductory Microeconomics
- [EVSC 110.3](#) Renewable Resources and Environment
- [GEOG 120.3](#) Introduction to Global Environmental Systems or [GEOL 206.3](#) Earth Systems
- [INDG 107.3](#) Introduction to Canadian Indigenous Studies
- [MATH 104.3](#) Elementary Calculus or [MATH 110.3](#) Calculus I or [MATH 125.3](#) Mathematics for the Life Sciences
- [RRM 114.3](#) Introductory Resource Economics and Policy

## Year 2 (30 credit units)

- 12 credit units open electives
- [EVSC 203.3](#) Sampling and Laboratory Analysis
- [GEOG 222.3](#) Geomatics
- [GEOG 280.3](#) Environmental Geography
- [PLSC 213.3](#) Principles of Plant Ecology or [BIOL 228.3](#) An Introduction to Ecology and Ecosystems or GEOG 271.3
- [RCM 200.3](#) Effective Professional Communication
- [RRM 215.3](#) Identification of Saskatchewan Plants and Soils

Note: Students planning to declare a Soil Science minor are advised to register in [EVSC 220.3](#) Environmental Soil Science or [SLSC 240.3](#) Agricultural Soil Science as an open elective and meet with an academic advisor as soon as possible to plan their program.

## Year 3 (30 credit units)

- 3 credit units open electives
- [GEOG 322.3](#) Geographic Information Systems
- [PLSC 214.3](#) Statistical Methods or [STAT 245.3](#) Introduction to Statistical Methods
- [RRM 201.1](#) Geographical Information Systems OR [ASKI 201.3 Resource Management Project Assessment](#)
- [RRM 301.9](#) Field Course in Renewable Resource Management
- [RRM 312.3](#) Natural Resource Management and Indigenous Peoples
- [RRM 323.2](#) Resource Data and Environmental Modeling OR [ASKI 204.2 Introduction to the Duty to Consult](#)
- [SLSC 232.3](#) Soil Genesis and Classification
- one of [GEOG 385.3](#) Analysis of Environmental Management and Policy Making, [GEOG 386.3](#) Environmental Impact Assessment or [ENVE 381.3](#) Sustainability and Environmental Assessment

## Year 4 (30 credit units)

- [EVSC 485.3](#) Environmental Science Capstone Course or [ENVS 401.3](#) Sustainability in Action
- [RRM 421.6](#) Group Project in Renewable Resource Management

**Choose 21 credit units of restricted electives from the following, depending on area of interest:**

[Indigenous Land Management](#)

[Ecology](#)

[Geological Sciences](#)

[Northern Studies](#)

[Physical Geography](#)

[Policy](#)

[Resource Economics Policy](#)

[Soil Science](#)

[Techniques](#)

[Water Science](#)

**New Course Proposal**

**Motion:** to introduce PLSC 342 as a new course offering entitled “Medicinal plants, agriculture, and human health” within the Plant Sciences (PLSC) department.

**Note:** It should also be noted that the first anticipated course offering of this new course will not occur until Winter Term January 2025.

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**Rationale:** This course has been approved at all College levels for the College of Agriculture and Bioresources (i.e., *Undergraduate committee* for the PLSC department, the *College Undergraduate Affairs (UAC) committee* and the *College’s Faculty Council* as well. In addition, previously it has been offered successfully as a Special Topics course. Furthermore, the recognition and use of medicinal plants to successfully treat human health is growing on a global scale, hand in hand with technological development, bioprospecting, and nice (natural products) marketing. Canada (North America) lags far behind other countries with respect to the level of use of medicinal plants, for example in the EU, where medicinal alternatives are also prescribed by doctors for different human ailments. This course is important for opening students’ eyes to the importance of medicinal plants for human health, not to mention the growing business opportunities in this space. Language, culture, and traditional use are important components of our knowledge of medicinal plants, and thus respect diversity on many levels is taught.

### **New Course Proposal**

#### **PLSC 342.3 Medicinal plants, agriculture, and human health (3L)**

Medicinal plants have been used by humans for many thousands of years and continue to make significant contributions to human health. Our knowledge on the applications of medicinal plants is tightly intertwined with culture and language, and is based upon a rich history of use. The use of medicinal plants is common in regulated (e.g. pharmaceutical) and non-regulated (e.g. herbal medicines) industries, home treatment, and traditional Indigenous applications. The purpose of this course is to provide students an understanding of medicinal plants through the lens of scientific legitimacy, thereby helping students to critically evaluate claims made by industry. Both humans and plants vary genetically in space and time, and thus topics surrounding the ethics of using traditional knowledge, bioprospecting, and personalized medicine will be discussed.

**Prerequisite:** BIOL 120.3 and at least 45 completed credit units; permission of the instructor

## University Course Challenge – June 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))

## Music

### Minor program revisions:

#### **Bachelor of Music Individualized and Performance Honours**

Add MUS 352.3, MUS 458.3, and MUS 459.3 to the requirements as shown below.

#### **Bachelor of Music Individualized (B.Mus. Individualized)**

#### G2 Music (62 credit units)

- **EMUS 115.3** Introduction to Music Education
- **MUS 120.2** Musicianship I
- **MUS 121.2** Musicianship II
- ...
- **MUS 233.3** Fundamentals of Music Theory III
- **MUS 234.3** Fundamentals of Music Theory IV
- **MUS 255.3** Music History II Compositions Cultures and Connections from the Late Classical Period to the Present

#### Theory/Analysis Electives

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

- **MUS 307.3** Orchestration I
- **MUS 346.3** Pre Baroque Counterpoint
- MUS 367.3
- **MUS 386.3** Jazz Arranging
- **MUS 447.3** Structural Musical Analysis
- **MUS 457.3** Music 1900-2000
- **MUS 485.3** Introduction to Schenkerian Analysis

#### Music History Electives

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

- MUS 303.3
- **MUS 311.3** History of Opera
- MUS 363.3
- MUS 364.3
- MUS 365.3
- **MUS 368.3** Music in Canada
- **MUS 352.3** Music Politics and Power
- **MUS 453.3** Seminar in Choral Literature and Materials
- **MUS 458.3** Introduction to Music and the Supernatural

- **MUS 459.3** Introduction to Music Gender and Sexuality
- **MUS 463.3** Seminar in Wind Literature and Materials
- **MUS 464.3** Research Seminar in Musicology I
- **MUS 465.3** Research Seminar in Musicology II
- MUS 472.3

### Music Electives

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

- **EMUS 302.2** Classroom Guitar Techniques for Music Majors
- **MUAP 201.1** Wind Orchestra
- **MUAP 202.1** Concert Band
- ...
- **MUS 175.3** Jazz History Survey
- **MUS 184.3** Jazz Materials
- **MUS — 200-Level, 300-Level, 400-Level**

### Bachelor of Music Performance Honours (B.Mus. Performance Honours)

#### G2 Music (65 credit units)

- **EMUS 115.3** Introduction to Music Education
- **MUS 120.2** Musicianship I
- **MUS 121.2** Musicianship II
- ...
- **MUS 234.3** Fundamentals of Music Theory IV
- **MUS 255.3** Music History II Compositions Cultures and Connections from the Late Classical Period to the Present
- MUS 325.3

#### Music History Electives

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

- MUS 303.3
- **MUS 311.3** History of Opera
- MUS 363.3
- MUS 364.3
- MUS 365.3
- MUS 367.3
- **MUS 368.3** Music in Canada
- **MUS 352.3** Music Politics and Power
- **MUS 453.3** Seminar in Choral Literature and Materials
- **MUS 458.3** Introduction to Music and the Supernatural
- **MUS 459.3** Introduction to Music Gender and Sexuality
- **MUS 463.3** Seminar in Wind Literature and Materials
- **MUS 464.3** Research Seminar in Musicology I
- **MUS 465.3** Research Seminar in Musicology II
- MUS 472.3

## Music Elective (Literature/Pedagogy)

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

- Wind/Brass majors must take [MUS 463.3](#) Seminar in Wind Literature and Materials (formerly MUS 350) and 3 credit units Open Music Elective.
- Piano majors must take [MUS 354.3](#) Survey of Keyboard Literature and MUS 359.3.
- Voice majors must take [MUS 312.3](#) Vocal Literature or [MUS 453.3](#) Seminar in Choral Literature and Materials; and MUS 313.3.

## Theory/Analysis Electives

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

- [MUS 307.3](#) Orchestration I
- [MUS 346.3](#) Pre Baroque Counterpoint
- MUS 367.3
- [MUS 386.3](#) Jazz Arranging
- [MUS 447.3](#) Structural Musical Analysis
- [MUS 457.3](#) Music 1900-2000
- [MUS 485.3](#) Introduction to Schenkerian Analysis

## Music Electives

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

- [EMUS 302.2](#) Classroom Guitar Techniques for Music Majors
- [MUAP 201.1](#) Wind Orchestra
- [MUAP 202.1](#) Concert Band
- ...
- [MUS 175.3](#) Jazz History Survey
- [MUS 184.3](#) Jazz Materials
- [MUS — 200-Level, 300-Level, 400-Level](#)

Rationale: MUS 352.3, 458.3, and 459.3 were approved in the October 2022 University Course Challenge with instructions on where to add them to the department's programs, but this was missed when the Catalogue was updated for 2023-24. This omission is corrected here.

## Music Education

### Minor program revisions:

**Bachelor of Music in Music Education** - all levels

Add MUS 352.3, MUS 458.3, and MUS 459.3 to the requirements as shown below.

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

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

### G2 Music (41 credit units)

- [EMUS 115.3](#) Introduction to Music Education
- [MUS 120.2](#) Musicianship I



- [MUS 121.2](#) Musicianship II
- ...
- [MUS 255.3](#) Music History II Compositions Cultures and Connections from the Late Classical Period to the Present
- MUS 325.3
- [MUS 428.3](#) Choral Pedagogy

### Music Theory or Music History Elective

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

- MUS 303.3
- [MUS 307.3](#) Orchestration I
- [MUS 311.3](#) History of Opera
- [MUS 346.3](#) Pre Baroque Counterpoint
- MUS 363.3
- MUS 364.3
- MUS 365.3
- MUS 367.3
- [MUS 368.3](#) Music in Canada
- [MUS 386.3](#) Jazz Arranging
- [MUS 447.3](#) Structural Musical Analysis
- MUS 450.3
- **MUS 352.3 Music Politics and Power**
- [MUS 453.3](#) Seminar in Choral Literature and Materials
- **MUS 458.3 Introduction to Music and the Supernatural**
- **MUS 459.3 Introduction to Music Gender and Sexuality**
- [MUS 457.3](#) Music 1900-2000
- [MUS 463.3](#) Seminar in Wind Literature and Materials
- [MUS 464.3](#) Research Seminar in Musicology I
- [MUS 465.3](#) Research Seminar in Musicology II
- MUS 472.3
- [MUS 485.3](#) Introduction to Schenkerian Analysis

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

G2 Music (41 credit units)

- [EMUS 115.3](#) Introduction to Music Education
- [MUS 120.2](#) Musicianship I
- [MUS 121.2](#) Musicianship II
- ...
- [MUS 255.3](#) Music History II Compositions Cultures and Connections from the Late Classical Period to the Present
- MUS 325.3
- [MUS 428.3](#) Choral Pedagogy

### Music Theory or Music History Elective

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

- MUS 303.3
- **MUS 307.3** Orchestration I
- **MUS 311.3** History of Opera
- **MUS 346.3** Pre Baroque Counterpoint
- MUS 363.3
- MUS 364.3
- MUS 365.3
- MUS 367.3
- **MUS 368.3** Music in Canada
- **MUS 386.3** Jazz Arranging
- **MUS 447.3** Structural Musical Analysis
- MUS 450.3
- **MUS 352.3** Music Politics and Power
- **MUS 453.3** Seminar in Choral Literature and Materials
- **MUS 458.3** Introduction to Music and the Supernatural
- **MUS 459.3** Introduction to Music Gender and Sexuality
- **MUS 457.3** Music 1900-2000
- **MUS 463.3** Seminar in Wind Literature and Materials
- **MUS 464.3** Research Seminar in Musicology I
- **MUS 465.3** Research Seminar in Musicology II
- MUS 472.3
- **MUS 485.3** Introduction to Schenkerian Analysis

Rationale: MUS 352.3, 458.3, and 459.3 were approved in the October 2022 University Course Challenge with instructions on where to add them to the department's programs, but this was missed when the Catalogue was updated for 2023-24. This omission is corrected here.

## College of Engineering - University Course Challenge Submission, June 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))

### Minor Course Revisions

**1). MOTION:** Starting in 2024-2025, remove CMPT 332 Operating Systems Concepts from Term 2 of the third year of the Bachelor of Science in Engineering (B.E.) – Computer Engineering CME program as a mandatory course.

**RATIONALE:** Initially CMPT 332 was put as a core course in CME program so that students can access advanced Operating Systems and similar CMPT courses in year 4 such as CMPT 432, CMPT 434, and CMPT 438. However, these upper-year courses are only available to Software Focus Area (not to DSP Focus Area). In addition, many “engineering students find CMPT332 to be an intense workload”. The CMPT 332 instructor has also raised concern about “CME students’ weakness in CMPT 332”.

Therefore, CMPT332 is removed as a mandatory course in year 3 and replaced with a pool of electives (refer to the next two motions).

### **Year 3 (33 credit units)**

Focus Areas – Students must complete the Digital Systems Focus Area and one of the Digital Signal Processing and Applications Focus Area or Computer Software Focus Area.

#### **Fall Term**

- **CME 331.3** Microprocessor Based Embedded Systems
- **CME 341.3** Logic Design Using FPGAs
- **RCM 200.3** Effective Professional Communication
- 3 credit units Digital Systems Focus Area
- 3 credit units Second Focus Area
- 3 credit units Science Elective List 1 or List 2

#### **Winter Term**

- **CME 334.3** Network Architecture and Protocols
- ~~**CMPT 332.3** Operating Systems Concepts~~
- **GE 348.3** Engineering Economics
- 3 credit units Digital Systems Focus Area
- 3 credit units Second Focus Area

**2). MOTION:** Starting in 2024-2025, add the following courses in the list of electives in third year (in T1 or T2, depending on the offering) in Software Focus Area of CME program.

CMPT 318 Data Analytics

CMPT 332 Operating Systems Concepts

**RATIONALE:** CME students in Software Focus Area can now choose any one of two pathways. One pathway (by taking CMPT 332) leads to conventional topics such as, Operating systems, Computer Networks and Security. Another pathway (by taking CMPT 318) leads to practical applications such as, Machine learning, Image processing, and Deep learning.

### **Computer Software**

#### **Year 3 - Fall Term**

- [CMPT 370.3](#) Intermediate Software Engineering

#### **Year 3 - Fall or Winter Term**

- 3 credit unit Group B Elective (choose from List B1 or B2)

#### **Year 4 - Fall Term**

- [CME 465.3](#) Embedded Machine Learning

#### **Year 4 - Fall or Winter Term**

- 6 credit units Group C Elective (choose from List C1 or C2)

### **Group B Electives**

#### **List B1**

- [CMPT 318.3](#) Data Analytics
- [CMPT 332.3](#) Operating Systems Concepts

**Students will choose only one (3 credits) from the list.**

#### **List B2**

- [CMPT 353.3](#) Full Stack Web Programming
- [CMPT 381.3](#) Implementation of Graphical User Interfaces

**3). MOTION:** Starting in 2024-2025, add the following courses in the list of electives in third year (in first or second term, depending on the offering) in DSP Focus Area of CME program.

CMPT 318 Data Analytics

CMPT 332 Operating Systems Concepts

## CMPT 370 Intermediate Software Engineering

**RATIONALE:** All these courses are important to the CME program but lead to three different specializations. CME students in DSP Focus Area can now choose any one of the three courses depending on their interests and career path.

### Digital Signal Processing and Applications

Year 3 - Fall Term

- [EE 362.3](#) Digital Signal Processing

Year 3 - Winter Term

- [EE 365.3](#) Algorithms and Circuits with Finite Precision Arithmetics

Year 3 – Winter or Fall Term

- **CMPT 318.3** Data Analytics
- **CMPT 332.3** Operating Systems Concepts
- **CMPT 370.3** Intermediate Software Engineering

Students will choose only one (3 credits) from the list.

Year 4 - Fall Term

- [EE 456.3](#) Digital Communication
- [EE 461.3](#) Digital Filter Design

Year 4 - Winter Term

- [EE 465.3](#) Design of a DSP System

### Editorial Changes

#### Co-op Program Internship Program – Proposed Changes for 2024-25

The Co-op Internship Program is classified as an “option” within University of Saskatchewan nomenclature. Participation in the Engineering Co-op Internship Program is a choice to enhance student learning. Students are not required to complete the program to be eligible for graduation.

The original program proposal states:

- Approval for participation in the program will be assessed based on the following criteria:
- At the time of application, a student must be enrolled in at least the second year of their Bachelor of Science in Engineering program.
- At the time of first work placement, a student must have completed at least two years of their Bachelor of Science in Engineering program.
- Have attained a 65% sessional weighted average in the most recent academic year.

- Return to studies following a work placement with at least 18 credit units of coursework remaining.
- Must not be on faculty action prior to beginning a work placement and must not receive a faculty action while on a work placement.
- Registration in a capstone design course disqualifies a student's eligibility for a January start date.

#### The proposed changes:

- Approval for participation in the program will be assessed based on the following criteria:
- At the time of application, a student must be enrolled in at least the second year of their Bachelor of Science in Engineering program.
- At the time of first work placement, a student must have completed at least two years of their Bachelor of Science in Engineering program.
- **Be in good academic standing (Good Academic Standing – status of student who meets the College promotion and academic standards. A student is considered in good academic standing if they are not currently the subject of any academic action), as per [The College of Engineering Academic Promotion and Standards Policy](#).**
- Return to studies following a work placement with at least 18 credit units of coursework remaining.
- ~~Must not be on faculty action prior to beginning a work placement and must not receive a faculty action while on a work placement.~~
- Registration in a capstone design course disqualifies a student's eligibility for a January start date.

#### Rationale

- Be inclusive and allow all students in good academic standing to take part in the program.
- [The College of Engineering Academic Promotion and Standards Policy](#) already states that students under academic action are not eligible to participate in the co-op internship program.
- McGill, Western, McMaster, UAlberta, UCalgary, UManitoba, URegina all have Engineering Co-op Programs using “good academic standing” as their eligibility criteria. UVictoria and Waterloo have mandatory co-ops which means that students can participate if in good academic standing.
- Students and faculty have brought the 65% eligibility criteria to our attention stating that they think it should be available to all students in good academic standing.
- Reduces the repetitiveness of administrative work. The originally proposed 65% required Co-op & Career Centre staff to reassess student grades after each term. With the proposed amendment, Co-op & Career Staff can receive the academic actions list from ESC which already does its own assessment.
- Employer partners often require a student's transcript during the application process, so the employer partner can decide what academic requirements they want.

College of Graduate and Postdoctoral Studies, University Course Challenge – June 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: CGPS Academic Affairs Specialist ([gradprograms.academicaffairs@usask.ca](mailto:gradprograms.academicaffairs@usask.ca))

**Sociology**

**Course Modification:**

**SOC 803.3 – Sociology of Development**

Current note: None

Proposed note: This course is a hybrid course with SOC 409, and this course cannot be taken for credit after previously taking SOC 409

Rationale: The joint offering of 400-level and 800-level courses allows the Department of Sociology to offer a wider range of graduate courses on a more frequent basis. Graduate students will be asked to submit longer autobiographies and reflection papers. Likewise, their research paper will be longer, and more references will be expected. They will be asked to pay more attention to theory and methodologies both in this paper and in their reflection papers and class presentations and will be marked harder. Graduate students be invited to engage more one-on-one with the instructor for discussions about their major paper and other work.

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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.

**SOC 803.3 – Sociology of Development**

Current course title: Sociology of Development

Proposed course title: Advanced Seminar in the Sociology of Development

Current course description: Review of present theories of development. Emphasis will be on the search for missing variables in theories of development produced by western social scientists. Considers development as a function of mobilization of resources and commitment of local people to the process of social change.

Proposed course description: Sociological analysis of historical and contemporary perspectives on development and underdevelopment. Critical assessment of approaches to globalization, industrialization, and regional development across nations with diverse cultures, politics, and social and economic systems. Roles of states and non-state actors, and prospects for degrowth and other transformational changes in the context of inequalities and environmental crises.

**ENVS 826.3 – Climate Change**

Current course description: This course will help the student develop a fundamental knowledge of the consequences of climate change from the environmental and social aspects. Students will gain a comprehensive understanding of climate change, and its impacts on the different parts of the Earth

systems, such as the water cycle, arctic hydrology and how it is related to sea level rising. Climate change impacts on human society will also be discussed.

Proposed course description: This course will help the student develop a fundamental knowledge of climate change, and its causes and impacts on the different parts of the Earth systems, such as the water cycle, arctic hydrology and how it is related to sea level rising. Climate change impacts on human society will also be discussed.



<https://programstest.usask.ca/grad-studies/community-population-health-sciences./comm-pop-phd-nondirect.php#AdmissionRequirements>

### Item for Information

#### **Community and Population Health Sciences**

Minor program revisions for the M.Sc. in Community Health and Epidemiology were approved through University Course Challenge (UCC) in December 2022. The revisions included renumbering several courses, including CHEP 813. Associated changes to the Ph.D. were also necessary to include in the December 2022 UCC posting, along with the M.Sc. changes, but they were inadvertently missed. They are being posted here for information and to correct the omission. The changes are as follows:

#### **Community and Population Health Sciences**

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

## Admission Requirements

- Language Proficiency Requirements: Proof of English proficiency may be required for international applicants and for applicants whose first language is not English.
- Master's degree, or equivalent, from a recognized university in an academic discipline relevant to the proposed field of study
- a cumulative weighted average of at least a 75% (U of S grade system equivalent) in the last two years of full-time study (e.g. 60 credit units)

For more information on language proficiency requirements, see the College of Graduate and Postdoctoral Studies [Academic Policies](#) for more information.

## Degree Requirements

Students who have not taken courses [at the Master's level](#) that represent an adequate introduction ~~for the PhD program will be required to take course work required by the to community and population health at the Master's level will be required to take CHEP 813.3 and possibly other courses, depending on academic preparation. The Master of Science program. These~~ courses will be [identified for the student when they are recommended for admission. Identified MSc courses will be](#) in addition to the regular Ph.D. course load, and 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.

- GPS 960.0
- GPS 961.0, if research involves human subjects
- GPS 962.0, if research involves animal subjects

A minimum of 12 credit units, including the following:

<https://programstest.usask.ca/grad-studies/community-population-health-sciences./comm-pop-phd-nondirect.php#AdmissionRequirements>

- CHEP 817.3
- 6 credit units of elective graduate-level courses
- An advanced\* research methods course, i.e. quantitative (e.g. CHEP [801](#), [806](#), 808 or equivalent) or qualitative (e.g. CHEP 818 or equivalent).

~~\*By advanced course we mean a methods course that is not typically taken to meet the MSe degree requirement (e.g. CHEP 805). Consult with Graduate Program Chair if there is a question about suitability of a course to meet this requirement.~~

- CHEP 990.0
- CHEP 996.0
- qualifying examination, as required
- comprehensive examination
- oral thesis defense
- residency requirement: Ph.D. students are required to live locally until core program requirements have been met, including thesis committee approval of pre-proposal, completion of required courses, and completion of the comprehensive exam.

## College of Medicine – June 2023, University Course Challenge

### Item for Information

Note the following addition in red:

### CHEP 350.3: Introduction to Epidemiology

This course will introduce students to the basic concepts, principles and methods of epidemiology. The topics covered will include basic epidemiological measures of disease frequency and association, study design and vulnerability to error, causation, and critical appraisal of an epidemiological study.

**Weekly hours:** 3 Lecture hours and 1 Tutorial hours

**Prerequisite(s):** STAT 244.3, STAT 245.3, ~~or~~ STAT 246.3, **or PLSC 214.3.**

**Note:** Priority will be given to students enrolled in the Biomedical Sciences majors. The course is open to undergraduate students from all colleges, pending availability, space, and by permission of the instructor. Students with credit for BMSC 350 may not take this course for credit.

**Rationale:** PLSC 214 has been established as equivalent to these STAT courses for years. No changes are being made. Adding it here will just make it obvious to students that they can register in CHEP 350 if they have received credit for PLSC 214.

## School of Environment and Sustainability: Submission for University Course Challenge SENS Undergraduate Certificate in Sustainability

On 31 March 2023, the School of Environment and Sustainability Faculty Council approved five additional courses to be included as Indigenous Learning elective options to the Certificate in Sustainability. The change is being submitted to University Course Challenge for approval, as follows:

- **ENG 338** Contemporary North American Indigenous Literatures
- **HIST 257** The Canadian Prairie to 1905
- **HIST 315** Indigenous Health History
- **HIST 316** History of the Métis in Twentieth Century Prairie Canada
- **GEOG 465** Environment and Health in Indigenous Communities

**Rationale:** These additions have been included to offer more flexibility for Arts and Science students to take the certificate and to match the options available to them in their undergraduate programs.

The additions have been added to the program description below in **red**.

Contact: Carolyn Pytlyk ([carolyn.pytlyk@usask.ca](mailto:carolyn.pytlyk@usask.ca))

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 a natural resources, community, or food systems focus for their sustainability studies towards the certificate. 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 ENVS 201.

## Certificate in Sustainability (21 credit units)

### Required Courses (6 credit units):

- **ENVS 201.3** Foundations of Sustainability
- **ENVS 401.3** Sustainability in Action or **EVSC 485.3** Environmental Science Capstone Course

### Indigenous Learning for Sustainability (3 credit units):

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

- **ANTH 202.3** Anthropology and Indigenous Peoples in Canada
- ANTH 480.3
- **ARCH 350.3** Introduction to Boreal Forest Archaeology

- [AREC 220.3](#) History of Indigenous Agriculture in Canada
- [COMM 347.3](#) Indigenous Business in Canada
- [DRAM 111.3](#) Practicum I Indigenous Performance Methods
- [ENG 242.3](#) Indigenous Storytelling of the Prairies
- [ENG 243.3](#) Introduction to Indigenous Literatures
- [ENG 335.3](#) The Emergence of Indigenous Literatures in Canada
- [ENG 338.3](#) Contemporary North American Indigenous Literatures
- [GEOG 465.3](#) Environment and Health in Indigenous Communities
- [HIST 195.3](#) History Matters Indigenous Perspectives on Canadian History
- [HIST 257.3](#) The Canadian Prairie to 1905
- [HIST 266.3](#) History Wars Issues in Native Newcomer Relations
- [HIST 315.3](#) Indigenous Health History
- [HIST 316.3](#) History of the Métis in Twentieth Century Prairie Canada
- [INDG 107.3](#) Introduction to Canadian Indigenous Studies
- [KIN 306.3](#) Introduction to Indigenous Wellness
- [LING 253.3](#) Indigenous Languages of Canada
- [PLAN 445.3](#) Planning with Indigenous Communities\*
- [POLS 222.3](#) Indigenous Governance and Politics
- INDG 200-Level, 300-Level, 400-level\*

\*These courses may not be used to count as credit for both Indigenous Learning and Area of Focus electives

### Techniques and Tools for Sustainability (3 credit units)

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

- [ENVE 381.3](#) Sustainability and Environmental Assessment
- [EVSC 203.3](#) Sampling and Laboratory Analysis
- [GEOG 290.3](#) Field Methods in Hydrology
- [GEOG 385.3](#) Analysis of Environmental Management and Policy Making
- [GEOG 386.3](#) Environmental Impact Assessment
- [INDG 210.3](#) Indigenous Ways of Knowing
- [POLS 256.3](#) Understanding Political Science Research
- [PSY 235.3](#) Research Methods and Design
- [RRM 323.2](#) Resource Data and Environmental Modeling and [RRM 201.1](#) Geographical Information Systems
- [SOC 225.3](#) An Introduction to Survey Research and Data Analysis in Sociology
- [SOC 232.3](#) Methods of Social Research

## Areas of Focus (9 credit units)

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

Please note in each area of focus there are thesis and/or research course options listed. If a student chooses to use one of these courses towards the completion of the certificate it must be demonstrated

to the certificate coordinator that the thesis pursued has a focus on sustainability and the theme of the chosen area of focus.

## Natural Resources and Sustainability Focus

Elective Course (9 credit units):

Choose one of:

- [BIOL 228.3](#) An Introduction to Ecology and Ecosystems
- [ECON 275.3](#) Economics of Natural Resources
- [ECON 277.3](#) Economics of the Environment
- [ENVE 201.3](#) Principles of Environmental Engineering
- [ENVE 212.2](#) Physical Principles of Plant Biosystems
- [EVSC 210.3](#) Environmental Physics
- [EVSC 220.3](#) Environmental Soil Science
- [GEOG 280.3](#) Environmental Geography
- [PHIL 226.3](#) Environmental Philosophy
- [PHIL 231.3](#) Moral Problems
- [PHIL 236.3](#) Ethics and Technology
- [PLSC 213.3](#) Principles of Plant Ecology
- [TOX 200.3](#) Poisons and Pollutants

Choose one of:

- [ANBI 375.3](#) Animals and the Environment
- AREC 330.3
- [BIOL 373.3](#) Community Ecology
- [CHEM 375.3](#) Environmental Chemistry
- [ECON 376.3](#) Energy Economics
- [EVSC 380.3](#) Grassland Soils and Vegetation
- [GEOG 333.3](#) Global Climate Change
- [GEOG 351.3](#) Northern Environments
- PLAN 329.3
- [RRM 312.3](#) Natural Resource Management and Indigenous Peoples
- [SLSC 342.3](#) Agronomic Soil Microbiology
- [SLSC 350.3](#) Terrestrial Restoration
- [TOX 301.3](#) Environmental Toxicology

Choose one of:

- [AREC 430.3](#) Advanced Natural Resource Economics
- [BIOL 410.3](#) Current Perspectives in Environmental Biology
- [BIOL 412.3](#) Limnology
- [BIOL 470.3](#) Conservation Biology
- [BIOL 475.3](#) Ecological Toxicology
- [ENVE 432.3](#) Land Management and Reclamation

- [EVSC 421.3](#) Contaminated Site Management and Remediation
- EVSC 430.3
- [EVSC 492.3](#) Research and Term Paper
- [EVSC 494.3](#) Research and Thesis
- [GEOG 490.3](#) Honours Thesis in Hydrology or Geomatics
- [GEOG 464.3](#) Geoscience of Green Energy and the Digital Economy
- [PLSC 413.3](#) Advanced Plant Ecology
- [PLSC 422.3](#) Rangeland Ecology and Management
- PLSC 423.3
- [PLSC 425.3](#) Forest Ecology
- [PLSC 492.3](#) Project Thesis in Plant Sciences
- [PLSC 494.6](#) Research Thesis in Plant Sciences
- [PLSC 492.3](#) Project Thesis in Plant Sciences
- [PLSC 494.3](#) Research Thesis in Plant Sciences
- [SLSC 444.3](#) Soil Ecology

## Community and Sustainability Focus

Elective Course (9 credit units):

Choose one of:

- [ANTH 240.3](#) Cultural Landscapes and Environments
- [ANTH 244.3](#) Political Ecology Anthropology and Global Environmental Issues
- [CPSJ 203.3](#) Cultivating Humanity
- [ECON 275.3](#) Economics of Natural Resources
- [ECON 277.3](#) Economics of the Environment
- [GEOG 208.3](#) World Regional Development
- [GEOG 240.3](#) Sustainable Cities and Regions
- [GEOG 280.3](#) Environmental Geography
- [HIST 243.3](#) The Reverberations of the Industrial Revolution 1750 to today
- [HIST 257.3](#) The Canadian Prairie to 1905
- [HIST 258.3](#) The Canadian Prairies since 1905
- HIST 263.3
- [HIST 290.3](#) Topics in Environmental History
- [HIST 292.3](#) The Menace of Progress I Enlightenment Colonialism Dispossession
- [HIST 293.3](#) The Menace of Progress II The Promise and Failure of Development
- [PHIL 226.3](#) Environmental Philosophy
- [PHIL 231.3](#) Moral Problems
- [PHIL 236.3](#) Ethics and Technology
- [POLS 226.3](#) Canadian Public Policy
- PLST 210.3
- [SOC 202.3](#) Environmental Sociology
- [SOC 204.3](#) Rural Sociology
- [SOC 206.3](#) Sociology of Communities and Community Development
- [SOC 227.3](#) Critical Issues in Canadian Society
- [WGST 210.3](#) Gendered Perspectives on Current Events

Choose one of:

- [ANTH 329.3](#) Environmental Anthropology
- ARCH 357.3
- AREC 330.3
- GEOG 340.3
- GEOG 352.3
- [GEOG 364.3](#) Geography of Environment and Health
- [GEOG 380.3](#) Environmental Geography of the Circumpolar North
- [GEOG 381.3](#) Development in the Canadian North Issues and Challenges
- [HIST 365.3](#) Recipes for a Nation Food History in Canada
- [HIST 371.3](#) Power and Change The History of Energy
- [PLAN 341.3](#) Urban Planning
- PLAN 342.3
- [PLAN 346.3](#) Introduction to Urban Design
- [PLAN 350.3](#) Transportation Planning and Geography
- [POLS 326.3](#) Comparative Public Policy
- [POLS 328.3](#) Public Policy Analysis
- [SOC 309.3](#) Theories of Social Change
- [SOC 344.3](#) Sociology of Women Gender and Development
- [SOC 360.3](#) Globalization and Social Justice

Choose one of:

- [ANBI 475.3](#) Field Studies in Arctic Ecosystems and Indigenous Peoples
- [ANTH 401.3](#) Independent Research in Anthropology
- [AREC 430.3](#) Advanced Natural Resource Economics
- [AREC 432.3](#) Rural Development Theory and Applications
- [CHEP 402.3](#) Global Health and Local Communities Issues and Approaches
- [CPSJ 400.3](#) Critical Perspectives on Social Justice and the Common Good
- GEOG 464.3
- [GEOG 491.3](#) Honours Thesis in Environment and Society
- [HIST 445.3](#) British Cities Empire and Global Environmental Change
- HIST 459.3
- INDG 451.6
- [LAW 444.3](#) Environmental Law
- [PLAN 441.3](#) Challenges in Urban Development
- [PLAN 445.3](#) Planning with Indigenous Communities
- [PLAN 446.3](#) Advanced Urban Design Studio
- [POLS 403.3](#) Advanced Topics in Public Law and Public Policy
- [POLS 422.3](#) Indigenous Governance and Self Determined Sustainable Development
- [SOC 409.3](#) Sociology of Development
- SOC 421.3
- [WGST 411.3](#) Situated Transnational Feminisms

## Food Systems and Sustainability Focus



Elective Course (9 credit units):

Choose one of:

- [AREC 251.3](#) Introduction to Agricultural Policy
- [AGRC 211.3](#) Global Food Security
- [PLSC 235.3](#) Urban Agriculture

Choose one of:

- [ANBI 375.3](#) Animals and the Environment
- [ANSC 301.3](#) Animal Production Tour
- AREC 330.3
- [AREC 348.3](#) Food Economics and Consumer Behaviour
- [EVSC 380.3](#) Grassland Soils and Vegetation
- [FABS 371.3](#) Food Biotechnology
- [PLSC 345.3](#) Pesticides and Crop Protection
- [RRM 312.3](#) Natural Resource Management and Indigenous Peoples
- [SLSC 313.3](#) Environmental Soil Chemistry

Choose one of:

- [AREC 428.3](#) Case Studies in Agribusiness Management
- [AREC 432.3](#) Rural Development Theory and Applications
- [AREC 451.3](#) Agricultural Policy Analysis
- [EVSC 492.3](#) Research and Term Paper
- [EVSC 494.6](#) Research and Thesis
- [FABS 401.3](#) Dairy Science and Technology
- FABS 436.3
- FABS 450.3
- [FABS 492.3](#) Literature Thesis
- [FABS 494.3](#) Research Thesis
- [GEOG 491.3](#) Honours Thesis in Environment and Society
- [PLSC 401.3](#) Sustainable Crop Production
- [PLSC 413.3](#) Advanced Plant Ecology
- [PLSC 418.3](#) Management of Arable Grassland
- [PLSC 422.3](#) Rangeland Ecology and Management
- [PLSC 492.3](#) Project Thesis in Plant Sciences
- [PLSC 494.6](#) Research Thesis in Plant Sciences
- [SLSC 492.3](#) Research and Term Paper
- [SLSC 494.6](#) Research and Thesis
- [SOC 402.3](#) Sociology of Agriculture and Food