The following Motions and Documents were considered by the GFC Programs Committee at its Thursday, December 08, 2022 meeting:

Agenda Title: **Course, Minor Program, and Minor Regulation Changes**
- Agricultural, Life and Environmental Sciences
- Arts
- Business
- Education
- Engineering
- Kinesiology, Sport, and Recreation
- Medicine and Dentistry
- Pharmacy and Pharmaceutical Sciences
- Rehabilitation Medicine
- Science

CARRIED MOTION:
THAT the GFC Programs Committee approve, with delegated authority from General Faculties Council, the attached course, minor program, and minor regulation change submissions from the Faculties of Agricultural, Life and Environmental Sciences, Arts, Business, Education, Engineering, Kinesiology, Sport, and Recreation, Medicine and Dentistry, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Science.

FINAL Item 4

Agenda Title: **Proposed Suspension of the Graduate Certificate in Stroke Rehabilitation, Rehabilitation Medicine and FGSR**

CARRIED MOTION:
THAT the GFC Programs Committee recommend that the General Faculties Council approve the Suspension of the Rehabilitation Medicine Graduate Certificate in Stroke Rehabilitation, to take effect July 1, 2023.

FINAL Item 5

Agenda Title: **Proposed Suspension of the Graduate Certificate in Bridging to Canadian Physical Therapy Practice, Rehabilitation Medicine and FGSR**

CARRIED MOTION:
THAT the GFC Programs Committee recommend that the General Faculties Council approve the suspension of the Rehabilitation Medicine Graduate Certificate in Bridging to Canadian Physical Therapy Practice, to take effect July 21, 2023.

FINAL Item 6

FINAL Item No. 4

Governance Executive Summary
Action Item

Agenda Title	**Course, Minor Program, and Minor Regulation Changes** – **Agricultural, Life and Environmental Sciences** – **Arts** – **Business** – **Education** – **Engineering** – **Kinesiology, Sport, and Recreation** – **Medicine and Dentistry** – **Pharmacy and Pharmaceutical Sciences** – **Rehabilitation Medicine** – **Science**

Motion

THAT the GFC Programs Committee approve, with delegated authority from General Faculties Council, the attached course and minor program change submissions from the Faculties of Agricultural, Life and Environmental Sciences, Arts, Business, Education, Engineering, Kinesiology, Sport, and Recreation, Medicine and Dentistry, Pharmacy and Pharmaceutical Sciences, Rehabilitation Medicine, and Science.

Item

Action Requested	☒ Approval ☐ Recommendation
Proposed by	Faculty Councils
Presenter(s)	Janice Causgrove Dunn, Vice-Provost (Programs) and Chair, GFC PC

Details

Office of Administrative Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (*please be specific*)	To approve course and minor program changes.
Executive Summary (*outline the specific item – and remember your audience*)	All routine course, minor program, and minor regulation changes that do not involve or affect other Faculties or units, and do not form part of a proposal for a new program or a substantive program change, are approved regularly by the GFC Programs Committee in an omnibus motion. See individual item for Faculty Council approval information.
Supplementary Notes and context	*<This section is for use by University Governance only to outline governance process.>*

Engagement and Routing (Include meeting dates)

Consultation and Stakeholder Participation (parties who have seen the proposal and in what capacity) <For information on the protocol see the Governance Resources section Student Participation Protocol>	*Those who are actively **participating**:* • Vice-Provost (Programs) and Chair, GFC Programs Committee • Faculty Councils • Representatives of the Office of the Registrar *Those who have been **consulted**:* • Program Support Team, Undergraduate and Non-Credit • Graduate Program Support Team
Approval Route (Governance) (including meeting dates)	GFC Programs Committee, December 8, 2022

Strategic Alignment

Alignment with *For the Public Good*	Objective 21
Legislative Compliance and jurisdiction	*Post-Secondary Learning Act* (PSLA) GFC Programs Committee (PC) Terms of Reference

Attachments:

1. Agricultural, Life and Environmental Sciences
2. Agricultural, Life and Environmental Sciences and Arts
3. Arts
4. Business
5. Education
6. Engineering
7. Kinesiology, Sport, and Recreation
8. Medicine and Dentistry
9. Pharmacy and Pharmaceutical Sciences
10. Rehabilitation Medicine
11. Science

Prepared by: Heather Richholt, Associate Secretary to GFC, heather.richholt@ualberta.ca

Item No. 4

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

Faculty (& Department or Academic Unit):	ALES
Contact Person:	Dr. Nat Kav; Associate Dean, Academic (nat@ualberta.ca)
Level of change (choose one only) [?]	• ~~Undergraduate~~ • Graduate
For which term will this change take effect?	Fall 2023

Rationale

Proposed by: *J. Aiken (Instructor) and S. Otto (Instructor; SPH)*
*We have found that having either *3 MICRB or *3 PHYSL is sufficient background for the course. This change will standardize the prereq requirements for AFNS 416 and SPH 416.*

Current	**Proposed**
AFNS 416 - One Health **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index 6** **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** 'One Health' is an emerging paradigm in public and veterinary health which recognizes that human, animal and environmental health are interlinked. The course will address food and water safety, the increase in prevalence of antibiotic resistant organisms, emerging infectious zoonotic diseases, environmental protection and environmental sustainability, emphasizing the interaction of these diverse yet interconnected disciplines in protecting the health of populations. Prerequisites: *3 MICRB ~~and~~ *3 PHYSL.	**AFNS 416 - One Health** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** 'One Health' is an emerging paradigm in public and veterinary health which recognizes that human, animal and environmental health are interlinked. The course will address food and water safety, the increase in prevalence of antibiotic resistant organisms, emerging infectious zoonotic diseases, environmental protection and environmental sustainability, emphasizing the interaction of these diverse yet interconnected disciplines in protecting the health of populations. Prerequisites: *3 MICRB or *3 PHYSL.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *R. Uwiera (Animal Science Division Director) and R. Zijlstra (Instructor)*
Using modern education tools, the learning objectives can be reached without a structured lab period and instead with recorded and in class instructions, take-home assignments with online teaching assistant support, and recorded and in class discussion of outcomes.

Current	**Proposed**
AN SC 464 - Companion Animal Nutrition **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-~~3~~ **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Aimed at fourth year undergraduate students with an interest in companion animal nutrition. The course will focus on nutrient utilization and requirements of dogs, cats, and horses. Other companion animal species (mammals, birds, reptiles, fish, amphibians, etc.) will also be covered. Current issues in pet food nutrition and manufacture will be discussed. Prerequisite: AN SC 260, *3NUTR or NU FS 305.	**AN SC 464 - Companion Animal Nutrition** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Aimed at fourth year undergraduate students with an interest in companion animal nutrition. The course will focus on nutrient utilization and requirements of dogs, cats, and horses. Other companion animal species (mammals, birds, reptiles, fish, amphibians, etc.) will also be covered. Current issues in pet food nutrition and manufacture will be discussed. Prerequisite: AN SC 260, *3 NUTR or NU FS 305.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *R. Uwiera (Animal Science Division Director) and R. Zijlstra (Instructor)*
Especially in the Animal Health program, the selection of fourth-year courses is limited, in part due to the reduction in courses over the last decade. Thus, there is room to add an advanced course for students to link animal nutrition to solving animal health problems. The new course will build on existing animal nutrition courses and will focus on problem solving as a learning objective.

The number of students is 175 for Agriculture (across all majors) and 277 for Animal Health (mostly in the Companion Animal major. Unlike production animals that are associated with 2 nutrition courses and 4 animal production courses across the Animal Science and Production Animal Health majors, companion animals are associated with 1 nutrition course and not a course using nutrition to solve animal health problems. Because nutrition can provide solutions to health problems of both companion animals and production animals, the title of the course specifies 'Animal'.

Current	Proposed
New Course	**AN SC 488 - Animal Nutrition and Health** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index 6** **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** An advanced course aimed at fourth year undergraduate students with an interest in using animal nutrition to solve animal health problems. The course will focus on problems that are associated with animal longevity, mortality and morbidity and will translate research findings into nutrition recommendations. Prerequisite: AN SC 461 or AN SC 464; or corequisite AN SC 462.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *M. Johnson (Instructor)*
I inherited this course from a prior instructor who specified HECOL 100 as a prerequisite. In my delivery of this course, HECOL 100 is not necessary for students to be successful. Removal of this prerequisite will also make the course more easily available to students across the university.

Current	Proposed
HECOL 315 - Interviewing and Counseling **Course Career** Undergraduate **Units 3** **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** An introduction to interviewing and counseling strategies for working with individuals using a strengths-based, human ecological approach. Prerequisite: ~~successful completion of~~ *30 ~~including HECOL 100~~.	**HECOL 315 - Interviewing and Counseling** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** An introduction to interviewing and counseling strategies for working with individuals using a strengths-based, human ecological approach. Prerequisite: *30.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *R. McQueen (Instructor)*
The negative environmental effects of the clothing and textiles industry are considerable. Many of the traditional approaches to textile production are changing to lessen the environmental impacts. In the CTMC program sustainability issues are addressed in many courses (e.g., HECOL 170; HECOL 241; HECOL 476) but in an area where sustainability is at the forefront of how the industry should be proceeding, a dedicated course is needed. The creation of this new course proposes to address this.

Current	**Proposed**
New Course	**HECOL 372 - Environmental Sustainability in Textiles** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Examination of the clothing and textiles industry and the environmental impact of textile production and consumption. Topics may include but are not limited to, circular economy, life-cycle thinking, environmental labelling, sustainable fibres, sustainable fabric and finishing technologies, consumption patterns and post-consumer use. Prerequisite: HECOL 170 and *60.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *R. Breitkreuz (Dept Chair and Instructor)*
Because the first section of the course entails some review of basic concepts necessary to study family policy, HECOL

300 is not an essential pre-req for this course. Dropping the prerequisite for this course will enable students from other programs to take the course, increasing enrollment.

Current	Proposed
HECOL 440 - Family Policy Issues **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Analysis of current policy issues faced by Canadian families and the examination of policies and programs affecting family well-being and relationships. Prerequisite: ~~HECOL 300~~.	**HECOL 440 - Family Policy Issues** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Analysis of current policy issues faced by Canadian families and the examination of policies and programs affecting family well-being and relationships. Prerequisite: *60 or consent of instructor.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *P. Dolez (Instructor)*
This course could be of interest to students outside of the Human Ecology program. Therefore, it is proposed to lift the HECOL 370 prerequisite upon consent of the instructor.

Current	Proposed
HECOL 470 - Advanced Materials for Protective Clothing **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Students explore advanced materials for protective clothing. Resistance of textiles to mechanical, thermal, chemical, biological, and electrical hazards as well as questions of durability and comfort are discussed with an emphasis on current research. The course describes	**HECOL 470 - Advanced Materials for Protective Clothing** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Students explore advanced materials for protective clothing. Resistance of textiles to mechanical, thermal, chemical, biological, and electrical hazards as well as questions of durability and comfort are discussed with an emphasis on current research. The course describes

phenomena and mechanisms involved, presents appropriate materials and structures, and depicts the relevant test methods. Prerequisite: HECOL 370.	phenomena and mechanisms involved, presents appropriate materials and structures, and depicts the relevant test methods. Prerequisite: HECOL 370 or consent of instructor.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *P. Dolez (Instructor)*
*Students who have only a basic knowledge in textiles would be able to follow this course without difficulty. Therefore, it is proposed to change the prerequisite in terms of a specific course to HECOL 170 to open the course to more students. However, students from all disciplines need to have a good general scientific background, ability to grasp complex concepts and writing ability, which is why it is proposed to add a *60 prerequisite.*

Current	**Proposed**
HECOL 474 - Introduction to Nanotechnologies and Smart Textiles **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Students explore opportunities offered by nanotechnologies and smart materials/structures as they relate to textile products. Mechanisms involved, materials used, fabrication processes, properties/performance obtained, and some examples of commercial applications are presented. Challenges encountered with these new technologies are also discussed. Prerequisite: HECOL ~~270~~.	**HECOL 474 - Introduction to Nanotechnologies and Smart Textiles** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Human Ecology **Typically Offered** either term **Description** Students explore opportunities offered by nanotechnologies and smart materials/structures as they relate to textile products. Mechanisms involved, materials used, fabrication processes, properties/performance obtained, and some examples of commercial applications are presented. Challenges encountered with these new technologies are also discussed. Prerequisite: HECOL 170 and *60; or consent of instructor.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *V. Mazurak (Director Division Human Nutrition)*
This is an error as cannot have NUTR 303 as a prerequisite.

Current	Proposed
NUTR 303 - Fundamentals of Nutritional Biochemistry and Metabolism I **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Fundamentals of nutrition with emphasis on vitamins and inorganic elements. Not to be taken if credit received for NUTR 301. Prerequisites: BIOCH 310 and PHYSL 210. ~~NUTR 303 or~~ NU FS 305 recommended.	**NUTR 303 - Fundamentals of Nutritional Biochemistry and Metabolism I** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Fundamentals of nutrition with emphasis on vitamins and inorganic elements. Not to be taken if credit received for NUTR 301. Prerequisites: BIOCH 310 and PHYSL 210. NU FS 305 recommended.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *V. Mazurak (Co-Academic Lead, Dietetic Specialization, Division Director Human Nutrition), H. Bates (Director D Dietetic Specialization Internship), D. Mager (Instructor), D. Vine (Co-Academic Lead, Dietetic Specialization)*

Students who do not complete the prerequisites BIOCH 310, NUTR 301 do not have the required academic knowledge to successfully complete NUTR 468. Aligns with new program course sequencing to ensure academic success and clinical competencies are met before entering practicum in 4th year of program.

Current	Proposed
NUTR 468 - Clinical Nutrition **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description**	**NUTR 468 - Clinical Nutrition** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description**

Basic principles of nutrition in clinical situations. The role of diet in the management of various diseases. The laboratory sessions include practical experience in providing individualized nutritional care for client from various cultural backgrounds. Prerequisites: NUTR 201 ~~and~~ PHYSL 210~~. Pre- or corequisites:~~ BIOCH 310 ~~and~~ NUTR 301. May contain alternative delivery sections; refer to the refer to the Tuition and Fees page in the University Regulations section of the Calendar.	Basic principles of nutrition in clinical situations. The role of diet in the management of various diseases. The laboratory sessions include practical experience in providing individualized nutritional care for client from various cultural backgrounds. Prerequisites: BIOCH 310, NUTR 201, NUTR 301 and PHYSL 210. May contain alternative delivery sections; refer to the refer to the Tuition and Fees page in the University Regulations section of the Calendar.

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *V. Mazurak (Co-Academic Lead, Dietetic Specialization and Division Director Human Nutrition), D. Mager (Instructor) H. Bates (Director DS Internship), D. Vine (Co-Academic Lead, Dietetic Specialization)*

Students who do not complete the prerequisites do not have the required academic knowledge to successfully complete NUTR 476. Aligns with new program course sequencing to ensure academic and clinical competencies are met before entering practicum in 4th year of program.

Current	**Proposed**
NUTR 476 - Advanced Clinical Nutrition **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** The principles of diet therapy in selected areas of current interest. Emphasis on case studies, research, and practical problems in clinical dietetics. Prerequisites: NU FS 356, NU FS 377, NUTR 302, NUTR 468~~, NUTR 482, and NUTR 483.~~ May contain alternative delivery sections refer to the Tuition and Fees page in the University Regulations section of the Calendar.	**NUTR 476 - Advanced Clinical Nutrition** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** The principles of diet therapy in selected areas of current interest. Emphasis on case studies, research, and practical problems in clinical dietetics. Prerequisites: NU FS 356, NU FS 377, NUTR 302, and NUTR 468. May contain alternative delivery sections refer to the Tuition and Fees page in the University Regulations section of the Calendar.

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *V. Mazurak (Co-Academic Lead, Dietetic Specialization, Division Director Human Nutrition), C. Prado (Instructor), H. Bates (Director DS Internship), D. Vine (Co-Academic Lead, Dietetic Specialization)*

Students who do not complete the prerequisites do not have the required academic knowledge to successfully complete NUTR 482. Aligns with new program course sequencing to ensure academic success and clinical competencies are met before entering practicum in 4th year of program (see above).

NUTR 482 involves application of academic knowledge and training in pre- and corequisites, therefore if these are not completed the student cannot apply and develop their professional dietetic practice skills. NUTR 482 is a pass or fail course so the prerequisite knowledge is essential for the student to be successful in NUTR 482.

Current	**Proposed**
NUTR 482 - Introduction to Dietetic Practice **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** either term **Description** Lectures and discussion to improve readiness of students to work independently in the development of professional practice skills in dietetics. Required before placement in NUTR 483, 484, 485, 486, 487 and 488. Prerequisites: NU FS 223, NU FS 250, NU FS 373, NUTR 301, and NUTR 468. Corequisite~~s: NU FS 356, NU FS 377, and NUTR 302.~~	**NUTR 482 - Introduction to Dietetic Practice** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** either term **Description** Lectures and discussion to improve readiness of students to work independently in the development of professional practice skills in dietetics. Required before placement in NUTR 483, 484, 485, 486, 487 and 488. Prerequisites: NU FS 223, NU FS 250, NU FS 356, NU FS 373, NU FS 377, NUTR 301, NUTR 302, and NUTR 468. Corequisite: NUTR 476.

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *V. Mazurak (Director Division Human Nutrition) & N. Willows (Instructor)*
The proposed course description aligns with course content and Integrated Competencies for Dietetic Education and Practice (ICDEP).

The course does not assess nutritional indicators of dietary practices, but nutritional outcomes, so the wording better reflects course content. The description aligns better with the 2020 Integrated Competencies for Dietetic Education and Practice (ICDEP).

Current	**Proposed**
NU FS 223 - The Cultural Ecology of Food and Health **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index 6** **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Overview of contemporary food culture issues~~. P~~rovides students with insight into a diversity of ~~food cultures and how food is used in religious customs, ceremony, celebrations, nutritional health, and medicinal treatment.~~ Discussion of nutritional indicators associated with dietary practices. Prerequisite: NUTR 100 or NU FS 305.	**NU FS 223 - The Cultural Ecology of Food and Health** **Course Career** Undergraduate **Units 3** **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** first term **Description** Overview of contemporary food culture issues, including social food movements and international nutrition. Using a biocultural approach, provides students with insight into a diversity of cultural dietary practices, cultural food therapies, and religious dietary requirements. Discussion of nutritional indicators associated with dietary practices. Prerequisite: NUTR 100 or NU FS 305.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *C. Carlyle (Division Director Plant Biosystems) and S. Hwang (Instructor)*
PL SC 310 is an entomology course now offered in AFNS that will replace ENT 222. The latter has been removed from the APE list of the Crop Science Major. Changes to major requirements, to include PL SC 310, were made last year.

Current	Proposed
PL SC 495 - Integrated Crop Protection **Course Career** Undergraduate **Units** 3 **Approved Hours** 0-3S-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** Integrated agronomic, mechanical, biological, and chemical control of insects, disease organisms and weeds that interfere with field crop and horticultural crop production. Prerequisites: ~~ENT 222~~, PL SC 352, and PL SC 380; one course may be taken as a corequisite.	**PL SC 495 - Integrated Crop Protection** **Course Career** Undergraduate **Units** 3 **Approved Hours** 0-3S-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Agric, Food & Nutr Sci **Typically Offered** second term **Description** Integrated agronomic, mechanical, biological, and chemical control of insects, disease organisms and weeds that interfere with field crop and horticultural crop production. Prerequisites: PL SC 310, PL SC 352, and PL SC 380; one course may be taken as a corequisite.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and B. Pinno (Instructor).*
Change to approved hours to better reflect the content and attendance requirements

Current	Proposed
REN R 101 - Introductory Forestry Field School **Course Career** Undergraduate **Units** 0 **Approved Hours** ~~6 DAYS~~ **Fee index 3** **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** A general overview of the practice of Forestry. This orientation includes an introduction to basic forest measurements, forest management practices, and will include tours of a number of major forest operations in Alberta. Course runs for six days just prior to Fall registration and includes a ~~number of one hour sessions during the term,~~ where students can connect with ~~one another,~~ forestry professors and professionals. Requires payment of additional student instructional support fees.	**REN R 101 - Introductory Forestry Field School** **Course Career** Undergraduate **Units** 0 **Approved Hours** 0-1S-3 **Fee index** 3 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** A general overview of the practice of Forestry. This orientation includes an introduction to basic forest measurements, forest management practices, and will include tours of a number of major forest operations in Alberta. Course runs for six days just prior to Fall registration and includes a seminar where students can connect with forestry professors and professionals. Requires payment of additional student instructional

Refer to the Tuition and Fees page in the University Regulations section of the Calendar.	support fees. Refer to the Tuition and Fees page in the University Regulations section of the Calendar.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and R. Froese (Instructor).*
MATH calculus was dropped from the forestry program requirements last year. Upon completion of the syllabus by a new instructor, MATH prerequisites are not required. This will allow for more flexible scheduling of RER 215.

Current	**Proposed**
REN R 215 - Forest Measurements **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Principles and practices of measuring and estimating present and future fibre production of forest communities, including applications of statistics, sampling techniques, regression analysis, and computer programming. Prerequisites: ~~(MATH 113, 114, 134, 144, or 154) and~~ *3 STAT. Pre- or corequisite: REN R 110. Requires payment of additional student instructional support fees. Refer to the Tuition and Fees page in the University Regulations section of the Calendar.	**REN R 215 - Forest Measurements** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Principles and practices of measuring and estimating present and future fibre production of forest communities, including applications of statistics, sampling techniques, regression analysis, and computer programming. Prerequisite: *3 STAT. Pre- or corequisite: REN R 110. Requires payment of additional student instructional support fees. Refer to the Tuition and Fees page in the University Regulations section of the Calendar.

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and D. Olefeldt (Instructor).*
Previously unclear which term, now scheduled for second.

Current	Proposed
REN R 250 - Water Resource Management **Course Career Undergraduate** **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** ~~either~~ term **Description** The course introduces basic hydrological principles, the global water cycle, global demand and supply of freshwater, history and current concepts in water resource management, water conflict, water law, and water economics. The course emphasizes Canadian and global water management issues of the 21st century, including water regulation, climate change, drinking water availability, water quality, eutrophication, and freshwater biodiversity. Prerequisite: *30.	**REN R 250 - Water Resource Management** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** The course introduces basic hydrological principles, the global water cycle, global demand and supply of freshwater, history and current concepts in water resource management, water conflict, water law, and water economics. The course emphasizes Canadian and global water management issues of the 21st century, including water regulation, climate change, drinking water availability, water quality, eutrophication, and freshwater biodiversity. Prerequisite: *30.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and D. MacKenzie (Instructor).*
Adding an alternative prerequisite for flexibility.

Current	Proposed
REN R 305 - Principles and Practices of Land Reclamation and Restoration **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Principles and practical techniques currently applied in land reclamation and restoration including: (1) landscape and soil reconstruction practices; (2) passive and active revegetation practices, taking into account the interaction between biotic and abiotic components; and (3)	**REN R 305 - Principles and Practices of Land Reclamation and Restoration** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Principles and practical techniques currently applied in land reclamation and restoration including: (1) landscape and soil reconstruction practices; (2) passive and active revegetation practices, taking into account the interaction between biotic and abiotic components; and (3)

regulations governing land reclamation after industrial disturbance. Prerequisites: REN R 120, REN R 210, and REN R 250.	regulations governing land reclamation after industrial disturbance. Prerequisites: REN R 120, REN R 210, and one of REN R 250 or REN R 350.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (REN R Department Chair) and J. Zwiazek (Instructor).*

*The instructor proposes to drop the *60 prerequisite which will allow more flexibility in scheduling. This requirement has caused problems for forestry students in the past.*

Current	Proposed
REN R 321 - Tree Physiology **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Student of physiological processes in trees. Emphasis on primary and secondary metabolism, gas exchange, transport processes, growth, and environmental effects. Prerequisites: ~~*60.~~ CHEM 101 and (BIOL 107 or PL SC 221) recommended.	**REN R 321 - Tree Physiology** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Student of physiological processes in trees. Emphasis on primary and secondary metabolism, gas exchange, transport processes, growth, and environmental effects. Prerequisites: CHEM 101 and (BIOL 107 or PL SC 221) recommended.

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair)*
Due to course number change from 441 to 341

Current	Proposed
REN R 341 - Soil Formation and Landscape Processes **Course Career Undergraduate** **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Soil formation, with emphasis on landscape processes as factors in soil development; pedogenic processes and their relation to environmental issues; soils; vegetation, and geological associations; kinds and distribution of soils in Canada; soil classification; field examination and computer-assisted learning of soils and their landscape. Field trips. Prerequisite: REN R 210.	**REN R 341 - Soil Formation and Landscape Processes** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-3 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Soil formation, with emphasis on landscape processes as factors in soil development; pedogenic processes and their relation to environmental issues; soils; vegetation, and geological associations; kinds and distribution of soils in Canada; soil classification; field examination and computer-assisted learning of soils and their landscape. Field trips. Prerequisite: REN R 210. Not to be taken if credit received for REN R 441.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and D. Haughland (Instructor).*
This course has been offered as REN R 401 for some years. We propose to give it a course number and name to make it more visible to students and increase enrollment.

Current	Proposed
New Course	**REN R 424 - Lichenology** **Course Career** Undergraduate **Units** 3 **Approved Hours** 1-0-2 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** An introduction to the identification, biology, and ecology of lichens in Alberta, which comprise a diverse and under-studied component of Alberta's flora. An emphasis on current research questions and methods. Combined lecture and laboratory, including microscopy, chemical testing, and interpreting morphology. Term project

	decided upon by students, and may include original research in taxonomy, ecology or lichen biomonitoring. Students learn to identify more than 80 species from across Alberta. Normally offered in alternate years.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and G. Armstrong (Instructor).*

The instructor proposes to add AREC 214 and REN R 215 as prerequisites. REN R 430 requires knowledge of linear algebra, calculus, and forest inventory, which is covered by these 200-level courses.

Current	**Proposed**
REN R 430 - Forest Resources Management **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-2 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Analytical techniques used by renewable resource managers for management of wildland areas for single or multiple outputs; problems of defining optimality when confronted with competing uses and multiple outputs. Prerequisite: *60.	**REN R 430 - Forest Resources Management** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-2 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** first term **Description** Analytical techniques used by renewable resource managers for management of wildland areas for single or multiple outputs; problems of defining optimality when confronted with competing uses and multiple outputs. Prerequisite: *60. REN R 215 and (AREC 214 or *3 MATH)

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Course Changes

Rationale

Proposed by: *N. Erbilgin (RENR Department Chair) and A. Hamann (REN R Associate Chair).*
Adjusting prerequisites to reflect changes to course numbers and last year's program changes.

Current	Proposed
REN R 431 - Integrated Forest Management **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-2 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Problem solving, decision making and planning in relation to the management of forest resources. Application of models and related tools. Public involvement and issues management will be addressed. Prerequisites: REN R 295 or REN R 299~~,~~ REN R 323, ~~and~~ REN R 430.	**REN R 431 - Integrated Forest Management** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-2 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Problem solving, decision making and planning in relation to the management of forest resources. Application of models and related tools. Public involvement and issues management will be addressed. Prerequisites: REN R 323, REN R 430 and one of REN R 295 or REN R 299.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

Calendar Change Request Form for Course Changes

Rationale

***Proposed by**: N. Erbilgin (RENR Department Chair) and Robert Froese (Instructor).*
Rationale for Change: This course will strengthen the forestry curriculum in this contemporary and important area.

Current	Proposed
New Course	**REN R 448 - Forest Growth and Yield** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-1-0 **Fee index** 6 **Faculty** Agric, Life & Environ Sciences **Department** Renewable Resources **Typically Offered** second term **Description** Measurement, modelling, and forecasting the future development of attributes of trees and forest stands. Tree taper, volume, and biomass estimation, recruitment, growth, yield, and survival functions, site quality

	estimation, and simulation modelling including linkages to forest inventory, applications of remote sensing, and reference data programs for monitoring and model development. Prerequisite: REN R 215.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	•	Undergraduate
	•	Graduate
Type of change request (check all that apply)	•	Program
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A	

Rationale

Proposed by: *M. Gänzle (NU FS Program Chair)*
These courses are optional courses for students in the Nutrition and Food Science General Program. AN SC 420 replaced NU FS 404, Meat Science and must be available to students in the BSc Honors Food Science; other courses are available to students in the General Program and should be available to students in Honors Food Science.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42237&returnto=11330

Current	Proposed
Bachelor of Science Honors in Food Science	**Bachelor of Science Honors in Food Science**
…	…
Program Requirements (120 units)	**Program Requirements (120 units)**
…	…
Year 4	**Year 4**
• 9 units in Approved Program Electives selected from 300/400-level NU FS	• 9 units in Approved Program Electives selected from 300/400-level NU FS, AN SC 420, or SPH 415.
…	…

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	●	Undergraduate
	●	Graduate
Type of change request (check all that apply)	●	Program
	●	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes	

Rationale

Proposed by: *V. Mazurak (Co-Academic Lead Dietetic Specialization program, Division Director Human Nutrition), H. Bates (Director Dietetic Specialization Internship) and D. Vine (Co-Academic Lead Dietetic Specialization Program), Dietetic Specialization Admissions and Management Committee.*

The course sequence changes are proposed in order to allow students to attain foundational academic knowledge before application to advanced clinical courses in 3rd year and clinical practicum in 4th year of the program. Two advanced clinical courses are being moved to the 3rd year of the program and all clinical practicum to the 4th year of the program. These course schedule changes will provide students with improved sequential foundational knowledge and gaining of essential skills to meet competencies in dietetic practice expected by the College of Dietitians and Alberta Health Services.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42244&returnto=11330

Current	**Proposed**
Bachelor of Science in Nutrition and Food Science - Dietetics Specialization **…** **Program Requirements and Course Sequencing (120 units)** **…** **Course Sequencing:** 1. To proceed to Year 2, students must have successfully completed all courses listed in Year 1.	**Bachelor of Science in Nutrition and Food Science - Dietetics Specialization** **…** **Program Requirements and Course Sequencing (120 units)** **…** **Course Sequencing:** 1. To proceed to Year 2, students must have successfully completed all courses listed in Year 1.

2. To proceed to Year 3, students must have successfully completed all courses listed in Years 1 and 2.
3. To proceed to Year 4, students must have successfully completed all courses listed in Years 1, 2, and 3.

Year 1

- ~~3 units in Approved Program Electives~~
- ~~ACCTG 300 - Introduction to Accounting~~
- BIOCH 200 - Introductory Biochemistry
- CHEM 263 - Organic Chemistry II
- NU FS 223 - The Cultural Ecology of Food and Health
- NU FS 250 - Applied Food Theory
- NU FS 363 - Food Microbiology
- NUTR 201 - Role of the Dietitian in the Canadian Health Care System
- PHYSL 210 - Human Physiology

Year 2

Fall/Winter

- BIOCH 310 - Bioenergetics and Metabolism
- NU FS 310 - Teaching and Communication in Nutrition
- NU FS 356 - Nutrition Across the Lifespan
- ~~NU FS 373 - Food Chemistry~~
- ~~NU FS 374 - Food Fundamentals and Quality~~
- NU FS 377 - Introduction to Population and Public Health Nutrition
- NUTR 301 - Fundamentals of Nutritional Biochemistry and Metabolism I
- NUTR 302 - Fundamentals of Nutritional Biochemistry and Metabolism II
- ~~NUTR 468 - Clinical Nutrition~~
- ~~NUTR 482 - Introduction to Dietetic Practice~~

~~Spring/Summer~~

- ~~NUTR 483 - Introductory Professional Practice In Clinical Dietetics~~

Year 3

Fall/Winter

- ~~3 units in Approved Program Electives~~
- INT D 403 - Foundations of Collaborative Practice
- INT D 408 - Interprofessional Health Education Elective
- ~~NU FS 461 - Foodservice Systems Management~~
- NUTR 400 - Research Methods in Nutritional Science

2. To proceed to Year 3, students must have successfully completed all courses listed in Years 1 and 2.
3. To proceed to Year 4, students must have successfully completed all courses listed in Years 1, 2, and 3.

Year 1

- BIOCH 200 - Introductory Biochemistry
- CHEM 263 - Organic Chemistry II
- NU FS 223 - The Cultural Ecology of Food and Health
- NU FS 250 - Applied Food Theory
- NU FS 363 - Food Microbiology
- NU FS 373 - Food Chemistry
- NU FS 374 - Food Fundamentals and Quality
- NUTR 201 - Role of the Dietitian in the Canadian Health Care System
- PHYSL 210 - Human Physiology

Year 2

Fall/Winter

- 6 units in Approved Program Electives
- ACCTG 300 - Introduction to Accounting
- BIOCH 310 - Bioenergetics and Metabolism
- NU FS 310 - Teaching and Communication in Nutrition
- NU FS 356 - Nutrition Across the Lifespan
- NU FS 377 - Introduction to Population and Public Health Nutrition
- NU FS 461 - Foodservice Systems Management
- NUTR 301 - Fundamentals of Nutritional Biochemistry and Metabolism I
- NUTR 302 - Fundamentals of Nutritional Biochemistry and Metabolism II

Year 3

Fall/Winter

- INT D 403 - Foundations of Collaborative Practice
- INT D 408 - Interprofessional Health Education Elective
- NUTR 400 - Research Methods in Nutritional Science
- NUTR 408 - Interprofessional Health Team Elective in Athlete Nutrition and Health

• NUTR 408 - Interprofessional Health Team Elective in Athlete Nutrition and Health • NUTR 450 - Undergraduate Dietetics Specialization Research Project (Capstone) • NUTR 476 - Advanced Clinical Nutrition • NUTR 477 - Advanced Population and Public Health Nutrition **3 units selected from** • SEM 200 - Introduction to Management for Non-Business Students • SEM 301 - Behavior in Organizations **6 units selected from** • NU FS 424 - Nutrition and Metabolism Related to Cancer • NU FS 428 - Advances in Human Nutrition and the Intestinal Microbiome • NUTR 443 - Diabetes, Cardiovascular Disease and Lifestyle • NUTR 452 - Nutrition in the Prevention of Chronic Human Diseases **Spring/Summer** **9 units selected from** • NUTR 484 - Professional Practice In Community Nutrition I • NUTR 485 - Professional Practice In Community Nutrition II • NUTR 486 - Professional Practice In Foodservice and Management I • NUTR 487 - Professional Practice In Foodservice and Management II ...	• NUTR 450 - Undergraduate Dietetics Specialization Research Project (Capstone) • NUTR 468 - Clinical Nutrition • NUTR 476 - Advanced Clinical Nutrition • NUTR 477 - Advanced Population and Public Health Nutrition • NUTR 482 - Introduction to Dietetic Practice **3 units selected from** • SEM 200 - Introduction to Management for Non-Business Students • SEM 301 - Behavior in Organizations **6 units selected from** • NU FS 424 - Nutrition and Metabolism Related to Cancer • NU FS 428 - Advances in Human Nutrition and the Intestinal Microbiome • NUTR 443 - Diabetes, Cardiovascular Disease and Lifestyle • NUTR 452 - Nutrition in the Prevention of Chronic Human Diseases **Spring/Summer** • NUTR 483 - Introductory Professional Practice In Clinical Dietetics **6 units selected from** • NUTR 484 - Professional Practice In Community Nutrition I • NUTR 485 - Professional Practice In Community Nutrition II • NUTR 486 - Professional Practice In Foodservice and Management I • NUTR 487 - Professional Practice In Foodservice and Management II ...

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)

Level of change (choose one only)	•	Undergraduate
	•	Graduate
Type of change request (check all that apply)	•	Program
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A	

Rationale

Proposed by: *M. Gänzle (NU FS Program Chair)*
These courses are optional courses for students in the Nutrition and Food Science General Program. AN SC 420 replaced NU FS 404, Meat Science and must be available to students in the Food Science and Technology Specialization; other courses are available to students in the General Program and should be available to students in the Food Science and Technology Specialization. Rationale based on course requests and feedback from Ugrd NU FS students on the usefulness of these courses in these Minors.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42248&returnto=11330

Current	Proposed
Bachelor of Science in Nutrition and Food Science - Food Science and Technology Specialization **…** **Program Requirements (120 units)** **…** **Year 4** • 9 units in Approved Program Electives selected from 300/400-level NU FS **…**	**Bachelor of Science in Nutrition and Food Science - Food Science and Technology Specialization** **…** **Program Requirements (120 units)** **…** **Year 4** • 9 units in Approved Program Electives selected from 300/400-level NU FS, AN SC 420, or SPH 415. **…**

Reviewed/Approved by:

Approved by ALES ACC Meeting on Oct 5, 2022.

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	●	Undergraduate
	●	Graduate
Type of change request (check all that apply)	●	Program
	●	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A	

Rationale

Proposed by: *D. Vine (NU FS Program Chair)*
Rationale based on course requests and feedback from Ugrd NU FS students on the usefulness of these courses in these Minors.
Minor in Food Marketing: *Nutrition communication in public and population health is useful to students graduating with Minor in Food Marketing to increase their knowledge on the relationship between behaviour, diet and nutrition in terms of marketing to different groups and populations. Community and population health related to food and nutrition is an important aspect of development and implementation of public health food policy and the course content of NU FS 377 would benefit this Minor.*
Minor in Food Policy: *Community and population health related to food and nutrition is an important aspect of development and implementation of public health food policy and the course content of NUFS 377 would benefit this Minor.*
Minor in Global Health: *NU FS 436 is a course that has not run for several years. NU FS 310 (Nutrition Communication and Education) is a useful course to students in this Minor for learning applied skills in the theory of learning, communication and behaviour in populations related to global nutrition. NUTR 380 is a general sport, exercise and nutrition course that can be incorporated into global health issues related to physical activity and nutrition.*

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42240&returnto=11330

Current	Proposed
Bachelor of Science in Nutrition and Food Science - General Program	**Bachelor of Science in Nutrition and Food Science - General Program**
…	**…**
Minor Requirements (30 units)	**Minor Requirements (30 units)**
Students must complete the requirements for one of the following minors.	**Students must complete the requirements for one of the following minors.**
…	**…**
Minor in Food Marketing	M**inor in Food Marketing**

3 units in Approved Program Electives • AREC 200 - Current Economic Issues for Agriculture and Food • AREC 384 - Food Market Analysis • AREC 484 - Strategic Management in Food and Resource Businesses • ECON 101 - Introduction to Microeconomics • NU FS 201 - Physical Principles of Food Structure and Functionality • NU FS 311 - Introduction to Food Processing • NU FS 374 - Food Fundamentals and Quality	3 units in Approved Program Electives • AREC 200 - Current Economic Issues for Agriculture and Food • AREC 384 - Food Market Analysis • AREC 484 - Strategic Management in Food and Resource Businesses • ECON 101 - Introduction to Microeconomics • NU FS 201 - Physical Principles of Food Structure and Functionality • NU FS 310 - Nutrition Communication and Education • NU FS 311 - Introduction to Food Processing • NU FS 374 - Food Fundamentals and Quality
6 units selected from • AREC 323 - Introduction to Management for Agri-Food, Environmental, and Forestry Businesses (if not taken to fulfill program core) • AREC 473 - Food and Agricultural Policies • AREC 482 - Cooperatives and Alternative Business Institutions • AREC 485 - Trade and Globalization in Food and Resources	**6 units selected from** • AREC 323 - Introduction to Management for Agri-Food, Environmental, and Forestry Businesses (if not taken to fulfill program core) • AREC 473 - Food and Agricultural Policies • AREC 482 - Cooperatives and Alternative Business Institutions • AREC 485 - Trade and Globalization in Food and Resources
Minor in Food Policy • ★3 Approved Program Electives • AREC 200 - Current Economic Issues for Agriculture and Food • AREC 471 - Society and Well-Being • AREC 473 - Food and Agricultural Policies • ECON 101 - Introduction to Microeconomics • HECOL 300 - Policy Development and Evaluation • NU FS 311 - Introduction to Food Processing • NU FS 374 - Food Fundamentals and Quality • R SOC 271 - The Politics of Food and Natural Resources …	**Minor in Food Policy** • ★3 Approved Program Electives • AREC 200 - Current Economic Issues for Agriculture and Food • AREC 471 - Society and Well-Being • AREC 473 - Food and Agricultural Policies • ECON 101 - Introduction to Microeconomics • HECOL 300 - Policy Development and Evaluation • NU FS 311 - Introduction to Food Processing • NU FS 374 - Food Fundamentals and Quality • NU FS 377 - Introduction to Population and Public Health Nutrition • R SOC 271 - The Politics of Food and Natural Resources …
Minor in Global Health • 3 units in Approved Program Electives • AREC 375 - World Food and Agriculture • AREC 471 - Society and Well-Being • ANTHR 207 - Introduction to Social and Cultural Anthropology • ANTHR 372 - Anthropology of Food • ECON 101 - Introduction to Microeconomics • INT D 404 - Global Citizenship: Contemporary Issues and Perspectives • NU FS 377 - Introduction to Population and Public Health Nutrition	**Minor in Global Health** • 3 units in Approved Program Electives • AREC 375 - World Food and Agriculture • AREC 471 - Society and Well-Being • ANTHR 207 - Introduction to Social and Cultural Anthropology • ANTHR 372 - Anthropology of Food • ECON 101 - Introduction to Microeconomics • INT D 404 - Global Citizenship: Contemporary Issues and Perspectives • NU FS 310 - Nutrition Communication and Education

• R SOC 271 - The Politics of Food and Natural Resources **3 units selected from** • ~~NU FS 436~~ • NU FS 424 - Nutrition and Metabolism Related to Cancer • NU FS 428 - Advances in Human Nutrition and the Intestinal Microbiome • NUTR 452 - Nutrition in the Prevention of Chronic Human Diseases • NUTR 477 - Advanced Population and Public Health Nutrition	• NU FS 377 - Introduction to Population and Public Health Nutrition • NUTR 380 - Sports Nutrition • R SOC 271 - The Politics of Food and Natural Resources **3 units selected from** • ~~NU FS 436~~ • NU FS 424 - Nutrition and Metabolism Related to Cancer • NU FS 428 - Advances in Human Nutrition and the Intestinal Microbiome • NUTR 452 - Nutrition in the Prevention of Chronic Human Diseases • NUTR 477 - Advanced Population and Public Health Nutrition

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	•	Undergraduate
	•	Graduate
Type of change request (check all that apply)	•	Program
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A	

Rationale

Proposed by: *J. Batcheller (Human Ecology rep, ALES Bus Mgmt Program Committee)*

According to the General Information section of BSc Fashion Business Management (FBM) program, students in the program can participate in the Cooperative Education Program. However, the link redirecting students to further information about the Co-op program does not explicitly mention the Fashion Business Management program. The proposed calendar change will add the FBM degree program to the detailed information about the Co-op program as shown above.

ALES students registered in the FBM program are allowed to participate in the Cooperative Education Program coordinated by the Faculty of Business. This calendar change makes it explicitly clear that qualified students in the Fashion Business Management program can compete for places in the co-op program.

Calendar Copy

BSc Fashion Business Management
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=43085&returnto=11330

Cooperative Education Program
https://calendar.ualberta.ca/content.php?catoid=36&navoid=11370

Current	Proposed
The Cooperative Education Program is coordinated by the Faculty of Business and is open to students registered in Agricultural/Food Business Management or Forest Business Management programs. Details related to admissions and requirements are described in BCom (Cooperative Education Program). All students who are Canadian citizens or permanent residents are eligible to compete for places in the co-op program following successful completion of the second year of studies in Agricultural/Food Business Management or Forest Business Management. The required courses for Cooperative Education students are the same as provided in the BSc Agricultural/Food Business Management Program or BSc Forest Business Management Program. In addition, Year 3 includes Introduction to Cooperative Education (non-credit seminar) and WKEXP 911 Year 4 (and 5) include WKEXP 912 and WKEXP 913. Note that the final term in the Cooperative Education Program must be a school term.	The Cooperative Education Program is coordinated by the Faculty of Business and is open to students registered in Agricultural/Food Business Management, Fashion Business Management or Forest Business Management programs. Details related to admissions and requirements are described in BCom (Cooperative Education Program). All students who are Canadian citizens or permanent residents are eligible to compete for places in the co-op program following successful completion of the second year of studies in Agricultural/Food Business Management, Fashion Business Management or Forest Business Management. The required courses for Cooperative Education students are the same as provided in the BSc Agricultural/Food Business Management Program, BSc Fashion Business Management or BSc Forest Business Management Program. In addition, Year 3 includes Introduction to Cooperative Education (non-credit seminar) and WKEXP 911 Year 4 (and 5) include WKEXP 912 and WKEXP 913. Note that the final term in the Cooperative Education Program must be a school term.

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	•	Undergraduate
	•	Graduate

Type of change request (check all that apply)	•	Program
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes	

Rationale

Proposed by: *N. Erbilgin (REN R Dept Chair) and Co-chairs of ENCS and Forestry program committees*

This change reflects changes due to courses no longer taught or recommended by the Forestry program committee and the availability of a new course by a new faculty member.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42229&returnto=11330

Current

Bachelor of Science in Forest Business Management General Information

…

Program Requirements (117 units)

…

6 units selected from

- REN R 314 - Forest Soils
- ~~REN R 327 - The Mosses of Alberta: Conservation and Identification~~
- REN R 335 - Forest Harvesting and Transport
- REN R 345 - Wood Science and Utilization
- REN R 368 - Management and Utilization of Forest Genetic Resources
- ~~REN R 414 - Agroforestry Systems~~
- REN R 421 - Advanced Tree Physiology
- REN R 423 - Advanced Silviculture
- REN R 426 - Geographical Information Systems Applications in Renewable Resources
- REN R 452 - Forest Watershed Management

Proposed

Bachelor of Science in Forest Business Management General Information

…

Program Requirements (117 units)

…

6 units selected from

- REN R 314 - Forest Soils
- REN R 335 - Forest Harvesting and Transport
- REN R 345 - Wood Science and Utilization
- REN R 368 - Management and Utilization of Forest Genetic Resources
- REN R 421 - Advanced Tree Physiology
- REN R 423 - Advanced Silviculture
- REN R 426 - Geographical Information Systems Applications in Renewable Resources
- REN R 448 - Forest Growth and Yield
- REN R 452 - Forest Watershed Management

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

Calendar Change Request Form for Program and Regulation Changes

Faculty (& Department or Academic Unit):	ALES	
Contact Person:	Dr. Nat Kav; Assoc Dean, Academic (nat@ualberta.ca)	
Level of change (choose one only)	•	Undergraduate
	•	Graduate
Type of change request (check all that apply)	•	Program
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes	

Rationale

Proposed by: *N. Erbilgin (REN R Dept Chair) and Co-chairs of ENCS and Forestry program committees*

This change reflects changes due to courses no longer taught or recommended by the Forestry program committee and the availability of a new course by a new faculty member.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42225&returnto=11330

Current	**Proposed**
Bachelor of Science in Forestry **General Information** **…** **Program Requirements (117 units)** **…** **9 units selected from** • REN R 314 - Forest Soils • ~~REN R 327 - The Mosses of Alberta: Conservation and Identification~~ • REN R 335 - Forest Harvesting and Transport • REN R 345 - Wood Science and Utilization • REN R 368 - Management and Utilization of Forest Genetic Resources	**Bachelor of Science in Forestry** **General Information** **…** **Program Requirements (117 units)** **…** **9 units selected from** • REN R 314 - Forest Soils • REN R 335 - Forest Harvesting and Transport • REN R 345 - Wood Science and Utilization • REN R 368 - Management and Utilization of Forest Genetic Resources • REN R 421 - Advanced Tree Physiology • REN R 423 - Advanced Silviculture

~~REN R 414 - Agroforestry Systems~~ REN R 421 - Advanced Tree Physiology REN R 423 - Advanced Silviculture REN R 426 - Geographical Information Systems Applications in Renewable Resources REN R 452 - Forest Watershed Management	REN R 426 - Geographical Information Systems Applications in Renewable Resources REN R 448 - Forest Growth and Yield REN R 452 - Forest Watershed Management

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022

UNIVERSITY OF ALBERTA

Calendar Change Form for Program and Regulations

See the Calendar Guide for tips on how to complete this form

	Agricultural, Life & Environmental Sciences (ALES)
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Contact Person:	N. Kav, ALES Associate Dean, Undergraduate Programs
Department/Unit Approval Date	BA Environmental Studies Program Committee (March 16th, 2022). Note that calendar changes to the ALES BA Environmental Studies program were approved through ALES ACC on April 27th, 2022.
(For Faculty Use) AAC Date:	☐ Additional Documentation Attached

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Proposed by: B. Swallow (REES) and R. Summers (EAS) (Environmental Studies program)

The Bachelor of Science Environmental Studies (BA Env Studies) is offered jointly by the Faculty of Agricultural, Life and Environmental Sciences (ALES) and the Faculty of Arts (Arts). The Arts program home was transferred as of July 2021 to the Department of Earth and Atmospheric Science to take advantage of the close program synergies with the Human Geography degree program (which is also an Arts degree). As part of this transition, the Faculties of ALES, Arts and Science agreed that the program committee for the BA Env Studies should include ALES, Arts and Science, co-chaired by a representative of ALES and a representative of Science. A new program committee was constituted for 2021/22, co-chaired by Brent Swallow (ALES) and Robert Summers (EAS - Human Geography), with additional members from ALES (1), EAS - Human Geography (1) and Arts (1).

In January 2022, the program committee began a review of the program toward the following objectives: 1) maintain flexibility for students to explore individual interests; 2) strengthen the sense of belonging to a cohort of like-minded Environmental Studies students; 3) provide clearer pathways toward graduate studies in related disciplines and interdisciplinary fields; 4) explore continued utility of *6 English; 5) explore the utility of a required course in statistics; 6) clarify the distinct nature of the three areas of concentration; 7) open possibilities for Environmental Studies students to take relevant human geography courses; 8) integrate with new sustainability courses (REES courses offered through the Sustainability Council) into the Environmental Studies program; 9) ensure that the program was more resilient to changes in other departments which we do not have direct influence/control over; and 10) explore the option of allowing Environmental Studies to be taken as an after degree.

The committee reviewed the program requirements in considerable depth. Environmental Studies programs (and programs with very similar focuses) from universities across Canada were reviewed. The committee also engaged several others in ALES and Arts with experience in administration of the Environmental Studies program. About 15 current Environmental Studies students from Arts and ALES were contacted and 10 provided feedback on some elements of the proposed changes. A few graduates of the Environmental Studies program were also asked to provide feedback. A brainstorming session was held with a small number of students. The key conclusions from the student input were: 1) maintain *6 English – communication skills are critical to success in the social science and humanities courses; 2) require introductory statistics (STAT 151, STAT 161 or SOC 210) for all students – lack of statistics / numeracy skills can hamper success in a number of subsequent courses and limit access to graduate programs; 3) take steps to enhance the sense of cohort among Environmental Studies students – including extra-curricular activities; and 4) integrate the SUST and human geography courses into the program. A full set of proposed changes were shared with 92 current students and 12 replied, all of whom expressed appreciation for the proposed changes. A few specific changes were suggested. We have accommodated those suggestions with these proposals.

Overall, the key proposed changes are: 1) add SUST 201 or HGEO 250, SUST 202, STAT 151, or SOC 210, and R SOC 375 to the common requirements; 2) move ENCS 352, HIST 359, PHIL 355, STS 200, REN R 205, and REN R 210 from the core to the electives; 3) require *3 from four 100-level introductory social science and humanities courses (HGEO 100, POLS 101, SOC 100, ANTHR 101); 4) expand the limited list of more advanced social science and humanities courses; 5) maintain limited flexibility in relevant physical science fields; 6) change NS 200 to NS 201 (based on consultation with the Faculty of NS); 7) require *6 from WRS, ENGL, or ALES 204 (in place of *6 ENGL); and 8) change the name of the third concentration area from Environment and Peoples of Canada to Society, Culture and Peoples of Canada to clarify culture, Canada and peoples as unifying themes.

These changes and reformatting will also be done on the ALES program page and seek the appropriate approvals.

We are adding the Concentration Requirements into the calendar as that will benefit students with their program plans, administration when checking graduation etc…

We will remove the restriction on after degrees. There is no reason not to allow an After Degree and there is demand from students for an After Degree. This will be consistent with the Faculty of Arts requirements for an After Degree.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42217&returnto=11330

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Bachelor of Arts in Environmental Studies **General Information** The Faculty of Agricultural, Life and Environmental Sciences and the Faculty of Arts have worked together to develop this degree which will educate students in the scientific, cultural, economic, moral, political and social dimensions of environmental issues. As the subject matter transcends the boundaries of any single discipline or faculty, this degree is offered through a collaborative program that draws on the Faculties of Native Studies and Science. This degree will provide graduates with interdisciplinary expertise to identify, frame, and contribute to the solution of environmental problems. Graduates will have a broad educational foundation in environmental studies, social studies and the humanities, for careers in law, business, economics, resource management, journalism as well as graduate education in either the professions or in research. ~~For further information, contact Media and Technology Studies.~~ ~~This program is not available as an After Degree.~~ **…** **Program Requirements (120 units)** ~~**The following courses, comprising 57 units, are common to all routes within the program:**~~ AREC 173 - The Plate, the Planet and Society ~~AREC 200 - Current Economic Issues for Agriculture and Food OR~~ ~~AREC 365 - Natural Resource Economics~~ BIOL 108 - Introduction to Biological Diversity BIOL 208 - Principles of Ecology	**Bachelor of Arts in Environmental Studies** **General Information** The Faculty of Agricultural, Life and Environmental Sciences and the Faculty of Arts have worked together to develop this degree which will educate students in the scientific, cultural, economic, moral, political and social dimensions of environmental issues. As the subject matter transcends the boundaries of any single discipline or faculty, this degree is offered through a collaborative program that draws on the Faculties of Native Studies and Science. This degree will provide graduates with interdisciplinary expertise to identify, frame, and contribute to the solution of environmental problems. Graduates will have a broad educational foundation in environmental studies, social studies and the humanities, for careers in law, business, economics, resource management, journalism as well as graduate education in either the professions or in research. **…** **Program Requirements (120 units)** 66 units – Common Requirements 30 units – Concentration Requirements 24 units – Elective Courses When planning elective courses students should consider what prerequisites they may require for courses in their concentrations. **BA Environmental Studies Common Requirements (66 units)** AREC 173 - The Plate, the Planet and Society BIOL 108 - Introduction to Biological Diversity BIOL 208 - Principles of Ecology

~~EAS 205 - Violent Earth: The Geology of Catastrophic Events OR~~ ~~EAS 204 - The Geology of Your Environment~~ ~~EAS 221 - Introduction to Geographical Information Systems and Remote Sensing OR~~ ~~REN R 201 - Introduction to Geomatic Techniques in Natural Resource Management~~ ECON 101 - Introduction to Microeconomics ~~ENCS 352 - Natural Resource and Environmental Law~~ 6 units ~~in Junior ENGL~~ ~~HIST 359 - Canadian Environmental History~~ ~~NS 200 - Indigenous | Canada: Looking Forward/Looking Back~~ PHIL 355 - Environmental Ethics [MOVE DOWN] ~~POL S 101 - Introduction to Politics~~ ~~REN R 205 - Wildlife Biodiversity and Ecology OR~~ ~~REN R 210 - Introduction to Soil Science~~ SOC 291 - Introduction to Environmental Sociology ~~3 unit 400 level capstone course~~ ~~STS 200 - Introduction to Studies in Science, Technology and Society~~	ECON 101 - Introduction to Microeconomics NS 201 - Indigenous | Canada: Looking Forward/Looking Back R SOC 375 - Public Participation and Conflict Resolution SOC 291 - Introduction to Environmental Sociology [moved] SUST 202 - Global Sustainable Development and the Sustainable Development Goals **6 units from** 100-level ENGL (except ENGL 150) 100-level WRS ALES 204 –Communication Fundamentals for Professionals **3 units from** STAT 151 - Introduction to Applied Statistics I STAT 161 - Introductory Statistics for Business and Economics SOC 210 - Introduction to Social Statistics **3 units from** HGEO 250 - Sustainable Development and Environmental Management SUST 201 - Introduction to Sustainability **3 units from** ANTHR 101 - Introductory Anthropology HGEO 100 - Introduction to Human Geography POL S 101 - Introduction to Politics SOC 100 - Introductory Sociology **3 units from** EAS 221 - Introduction to Geographical Information Systems and Remote Sensing REN R 201 - Introduction to Geomatic Techniques in Natural Resource Management **3 units from**

3 units from

ANTHR 230 - Anthropology of Science, Technology, and Environment

~~HIST 294 - An Introduction to the History of Sciences, Technology, and Medicine~~

STS 210 - Environment, Science, Culture, and Values

~~Additional Requirements~~

~~In addition to the courses listed above, students must complete a minimum of 30 units in additional course credits from one of the following concentrations: Environment and Peoples of Canada; Politics, Society & the Global Environment; or Food & Society. Courses taken~~

EAS 250 - Biogeography
REN R 205 - Wildlife Biodiversity and Ecology
REN R 210 - Introduction to Soil Science

3 units from

AREC 200 - Current Economic Issues for Agriculture and Food
AREC 365 - Natural Resource Economics

6 units from

EAS 100 Planet Earth
EAS 201 - Earth Science I
EAS 204 - The Geology of Your Environment
EAS 205 - Violent Earth: The Geology of Catastrophic Events
EAS 208 - Introduction to Global Change
EAS 351 - Environmental Applications of Geographical Information Systems
HGEO 470 - Geographical Information Systems for Social Science

9 units from

ANTHR 230 - Anthropology of Science, Technology, and Environment

ENCS 352 - Natural Resource and Environmental Law
HGEO 252 - Human Dimensions of Environmental Hazards
HIST 359 - Canadian Environmental History
PHIL 355 - Environmental Ethics
R SOC 365 - Sociology of Environment and Development
REN R 260 - History and Fundamentals of Environmental Protection and Conservation
REN R 467 - Environmental Interpretation and Science Communication
STS 200 - Introduction to Studies in Science, Technology and Society
STS 210 - Environment, Science, Culture, and Values
SUST 300 - Topics in Sustainability
SUST 410 - Directed Study in Sustainability

Capstone Requirement (3 units)

R SOC 410 - Research Methods and Policy Applications in Applied Environmental Sociology

Note: Alternative courses may be used with permission of department.

Concentration Requirements (30 units)

Students must select one of the following concentrations. Substitutions including but not limited to relevant variable topics courses and directed study courses may be approved with permission from the BA Environmental Studies advisors for the Faculty of Arts.

~~to satisfy core requirements may not be counted towards the 30 units required for any concentration.~~

~~There are 33 units in free electives. [Move up]~~

~~Environment~~ and Peoples of Canada

General Information:
This concentration brings together the diverse knowledge required to understand environmental challenges facing Canadians, including indigenous perspectives and issues in environmental ~~and resource management~~.

~~Requirements of the Concentration (30 units). Approved courses for this concentration are provided on the Faculty websites. Other courses may be approved with permission from the academic advisor.~~

Politics, Society & the Global Environment

General Information:

This concentration introduces students to political and social methodologies relevant for understanding environmental issues from a global perspective.

~~**Requirements of the Concentration (30 units)**~~

~~Approved courses for this concentration are provided on Faculty websites. Other courses may be approved with permission from the academic advisor.~~

Note to editor : The Concentrations will be expandable/clickable links to their specific requirements.

Culture, Society, and Peoples of Canada

General Information:
This concentration brings together the diverse knowledge required to understand environmental challenges facing Canadians, including indigenous perspectives and issues in environmental stewardship.

30 units from

ANTHR 207 - Introduction to Social and Cultural Anthropology
ANTHR 487 - Seminar in Social, Cultural and/or Linguistic Anthropology
BIOL 381 - A Planet in Crisis
HGEO 341- Social and Cultural Geography
HIST 369 - History of the Indigenous Peoples and Kanata after 1870
NS 115 - Indigenous Peoples and Technoscience
NS 240 - Introduction to Indigenous Legal Issues
NS 290 - Introduction to Research and Inquiry
NS 335 - Indigenous Peoples and the Fur Trade
NS 355 - Indigenous Knowledge and Oral Traditions
NS 435 - Management of Indigenous Natural Resources
PHIL 217 - Biology, Society and Values
PHIL 345 - Humans and Animals
PHIL 368 - Topics in Social Justice
POL S 201 - Introduction to Indigenous Politics
POL S 327 - Indigenous Politics in Canada
POL S 333 - Ecology and Politics
R SOC 365 - Sociology of Environment and Development
R SOC 450 - Environmental Sociology
R SOC 460 - Perspectives on Traditional Knowledge
REN R 260 - History and Fundamentals of Environmental Protection and Conservation
REN R 467 - Methods of Environmental Interpretation and Communication
WGS 390 - Environmental Feminisms and Social Justice

Politics, Society and the Global Environment

General Information:

This concentration introduces students to political and social methodologies relevant for understanding environmental issues from a global perspective.

30 units from

AREC 200 - Current Economic Issues for Agriculture and Food
AREC 365 - Natural Resource Economics
AREC 375 - World Food and Agriculture
ECON 269 - Economics of the Environment
ENCS 473 - Environment and Conservation Policy
HGEO 252 - Human Dimensions of Environmental Hazards

Food & Society

General Information:

This concentration is focused on sustainable food and agriculture, incorporating social, political, cultural, economic, ethical, and feminist perspectives on issues of contemporary food production.

~~**Requirements of the Concentration (30 units)**~~

~~Approved courses for this concentration are provided on Faculty websites. Other courses may be approved with permission from the academic advisor.~~

HGEO 443 - Environment and Health
HGEO 450 - Resource Management and Environmental Policy
HGEO 452 - Human Dimensions of Environmental Change
HGEO 470 - Geographical Information Systems for Social Science
HIST 344 - Global Environmental History
INT D 303 - Economics of World Food and Agriculture
POL S 201 - Introduction to Indigenous Politics
POL S 235 - Introduction to Comparative Politics
POL S 266 - Politics of Globalization
POL S 327 - Indigenous Politics in Canada
POL S 333 - Ecology and Politics
POL S 445 - Topics in Globalization and Governance
POL S 364 - Introduction to International Political Economy
REN R 260 - History and Fundamentals of Environmental Protection and Conservation
REN R 364 - Principles of Managing Natural Diversity
REN R 465 - Environmental and Conservation Field Studies
REN R 467 - Methods of Environmental Interpretation and Communication
R SOC 355 - Rural Communities and Global Economies
R SOC 365 - Sociology of Environment and Development
R SOC 430 - Social Impact Assessment
R SOC 450 - Environmental Sociology
R SOC 460 - Perspectives on Traditional Knowledge
SOC 269 - Introductory Sociology of Globalization
SOC 343 - Social Movements

Food and Society

General Information:

This concentration is focused on sustainable food and agriculture, incorporating social, political, cultural, economic, ethical, and feminist perspectives on issues of contemporary food production.

30 units from

ALES 391 - ALES Mexico Tour
AN SC 200 - Principles of Animal Agriculture
AN SC 376 - Animal Welfare
AREC 200 - Current Economic Issues for Agriculture and Food
AREC 250 - Social and Economic Issues of Food Biotechnology
AREC 375 - World Food and Agriculture
AREC 471 - Society and Well-Being
AREC 473 - Food and Agricultural Policies
AREC 485 - Trade and Globalization in Food and Resources
ANTHR 372 - Anthropology of Food
ANTHR 460 - Nutritional Anthropology
HIST 294 - An Introduction to the History of Sciences, Technology, and Medicine
INT D 303 - Economics of World Food and Agriculture
NU FS 100 - Introduction to Food Science and Technology
NU FS 223 - The Cultural Ecology of Food and Health
NU FS 442 - Sustainability of Food and Bio-based Products

[…]	PHIL 279 - Philosophy of Hunting PHIL 345 - Humans and Animals PL SC 100 - Plants in Our Lives PL SC 200 - Urban Plants: Gardening and Sustainability POL S 333 - Ecology and Politics REN R 260 - History and Fundamentals of Environmental Protection and Conservation REN R 450 - Environmentally Sustainable Agriculture REN R 467 - Methods of Environmental Interpretation and Communication R SOC 271 - The Politics of Food and Natural Resources STS 210 - Environment, Science, Culture, and Values WGS 240 - Feminism and Food **[…]**

Reviewed/Approved by:

Approved by ALES ACC Meeting on April 27, 2022.

AFC Approval Date: November 24, 2022

UNIVERSITY OF ALBERTA

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Faculty of Arts	Earth and Atmospheric Sciences
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Contact Person:	Bob Summers, Brent Swallow (BA Env Studies Co-Chairs)
Department/Unit Approval Dateh fhfh	BA Environmental Studies Program Committee (March 16th, 2022). Note that calendar changes to the ALES BA Environmental Studies program were approved through ALES ACC on April 27th, 2022.
(For Faculty Use) AAC Date:	☐ Additional Documentation Attached

Rationale for change (Indicate other consultation groups, departments, units or faculties)

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(HGEO 100, POLS 101, SOC 100, ANTHR 101); 4) expand the limited list of more advanced social science and humanities courses; 5) maintain limited flexibility in relevant physical science fields; 6) change NS 200 to NS 201 (based on consultation with the Faculty of NS); 7) require *6 from WRS, ENGL, or ALES 204 (in place of *6 ENGL); and 8) change the name of the third concentration area from Environment and Peoples of Canada to Society, Culture and Peoples of Canada to clarify culture, Canada and peoples as unifying themes.

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Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Bachelor of Arts in Environmental Studies **General Information** The Faculty of Agricultural, Life and Environmental Sciences and the Faculty of Arts have worked together to develop this degree which will educate students in the scientific, cultural, economic, moral, political and social dimensions of environmental issues. As the subject matter transcends the boundaries of any single discipline or faculty, this degree is offered through a collaborative program that draws on the Faculties of Native Studies and Science. This degree will provide graduates with interdisciplinary expertise to identify, frame, and contribute to the solution of environmental problems. Graduates will have a broad educational foundation in environmental studies, social studies and the humanities, for careers in law, business, economics, resource management, journalism as well as graduate education in either the professions or in research. ~~For further information, contact Media and Technology Studies.~~ ~~This program is not available as an After Degree.~~ **…** **Program Requirements (120 units)** **BA Environmental Studies Common Requirements**	**Bachelor of Arts in Environmental Studies** **General Information** The Faculty of Agricultural, Life and Environmental Sciences and the Faculty of Arts have worked together to develop this degree which will educate students in the scientific, cultural, economic, moral, political and social dimensions of environmental issues. As the subject matter transcends the boundaries of any single discipline or faculty, this degree is offered through a collaborative program that draws on the Faculties of Native Studies and Science. This degree will provide graduates with interdisciplinary expertise to identify, frame, and contribute to the solution of environmental problems. Graduates will have a broad educational foundation in environmental studies, social studies and the humanities, for careers in law, business, economics, resource management, journalism as well as graduate education in either the professions or in research. **…** **Program Requirements (120 units)** 66 units – Common Requirements 30 units – Concentration Requirements 24 units – Elective Courses When planning elective courses students should consider what prerequisites they may require for courses in their concentrations. **BA Environmental Studies Common Requirements (66 units)** AREC 173 - The Plate, the Planet and Society

~~**The following courses, comprising 57 units, are common to all routes within the program:**~~ AREC 173 - The Plate, the Planet and Society ~~AREC 200 - Current Economic Issues for Agriculture and Food OR~~ ~~AREC 365 - Natural Resource Economics~~ BIOL 108 - Introduction to Biological Diversity BIOL 208 - Principles of Ecology ~~EAS 205 - Violent Earth: The Geology of Catastrophic Events OR~~ ~~EAS 204 - The Geology of Your Environment~~ ~~EAS 221 - Introduction to Geographical Information Systems and Remote Sensing OR~~ ~~REN R 201 - Introduction to Geomatic Techniques in Natural Resource Management~~ ECON 101 - Introduction to Microeconomics ~~ENCS 352 - Natural Resource and Environmental Law~~ 6 units ~~in Junior ENGL~~ ~~HIST 359 - Canadian Environmental History~~ ~~NS 200 - Indigenous | Canada: Looking Forward/Looking Back~~ PHIL 355 - Environmental Ethics [MOVE DOWN] ~~POL S 101 - Introduction to Politics~~ ~~REN R 205 - Wildlife Biodiversity and Ecology OR~~ ~~REN R 210 - Introduction to Soil Science~~ SOC 291 - Introduction to Environmental Sociology ~~3-unit 400-level capstone course~~ ~~STS 200 - Introduction to Studies in Science, Technology and Society~~	BIOL 108 - Introduction to Biological Diversity BIOL 208 - Principles of Ecology ECON 101 - Introduction to Microeconomics NS 201 - Indigenous | Canada: Looking Forward/Looking Back R SOC 375 - Public Participation and Conflict Resolution SOC 291 - Introduction to Environmental Sociology [moved] SUST 202 - Global Sustainable Development and the Sustainable Development Goals **6 units from** 100-level ENGL (except ENGL 150) 100-level WRS ALES 204 –Communication Fundamentals for Professionals **3 units from** STAT 141 - Introduction to Statistics STAT 151 - Introduction to Applied Statistics I STAT 161 - Introductory Statistics for Business and Economics SOC 210 - Introduction to Social Statistics **3 units from** HGEO 250 - Sustainable Development and Environmental Management SUST 201 - Introduction to Sustainability **3 units from** ANTHR 101 - Introductory Anthropology HGEO 100 - Introduction to Human Geography POL S 101 - Introduction to Politics

	SOC 100 - Introductory Sociology **3 units from** EAS 221 - Introduction to Geographical Information Systems and Remote Sensing REN R 201 - Introduction to Geomatic Techniques in Natural Resource Management **3 units from** EAS 250 - Biogeography REN R 205 - Wildlife Biodiversity and Ecology REN R 210 - Introduction to Soil Science **3 units from** AREC 200 - Current Economic Issues for Agriculture and Food AREC 365 - Natural Resource Economics **6 units from** EAS 100 Planet Earth EAS 201 - Earth Science I EAS 204 - The Geology of Your Environment EAS 205 - Violent Earth: The Geology of Catastrophic Events EAS 208 - Introduction to Global Change EAS 351 - Environmental Applications of Geographical Information Systems HGEO 470 - Geographical Information Systems for Social Science
3 units from ANTHR 230 - Anthropology of Science, Technology, and Environment ~~HIST 294 - An Introduction to the History of Sciences, Technology, and Medicine~~ STS 210 - Environment, Science, Culture, and Values	**9 units from** ANTHR 230 - Anthropology of Science, Technology, and Environment ENCS 352 - Natural Resource and Environmental Law HGEO 252 - Human Dimensions of Environmental Hazards HIST 359 - Canadian Environmental History PHIL 355 - Environmental Ethics R SOC 365 - Sociology of Environment and Development REN R 260 - History and Fundamentals of Environmental Protection and Conservation REN R 467 - Environmental Interpretation and Science Communication STS 200 - Introduction to Studies in Science, Technology and Society STS 210 - Environment, Science, Culture, and Values SUST 300 - Topics in Sustainability SUST 410 - Directed Study in Sustainability **Capstone Requirement (3 units)** R SOC 410 - Research Methods and Policy Applications in Applied Environmental Sociology Note: Alternative courses may be used with permission of department. **Concentration Requirements (30 units)**

~~Requirements for~~ Concentrations

~~In addition to the courses listed above, students must complete a minimum of 30 units in additional course credits from one of the following concentrations: Environment and Peoples of Canada; Politics, Society & the Global Environment; or Food & Society. Courses taken to satisfy core requirements may not be counted towards the 30 units required for any concentration.~~

~~There are 33 units in free electives. [Move up]~~

~~Environment~~ and Peoples of Canada

General Information:

This concentration brings together the diverse knowledge required to understand environmental challenges facing Canadians, including indigenous perspectives and issues in environmental ~~and resource management~~.

~~Requirements of the Concentration (30 units). Approved courses for this concentration are provided on the Faculty websites. Other courses may be approved with permission from the academic advisor.~~

Students must select one of the following concentrations. Substitutions including but not limited to relevant variable topics courses and directed study courses may be approved with permission from the BA Environmental Studies advisors for the Faculty of Arts.

Note to editor : The Cncentrations will be expandable/clickable links to their specific requirements.

Culture, Society, and Peoples of Canada

General Information:

This concentration brings together the diverse knowledge required to understand environmental challenges facing Canadians, including indigenous perspectives and issues in environmental stewardship.

30 units from

ANTH 207 - Introduction to Social and Cultural Anthropology
ANTH 487 - Seminar in Social, Cultural and/or Linguistic Anthropology
BIOL 381 - A Planet in Crisis
HGEO 341- Social and Cultural Geography
HIST 369 - History of the Indigenous Peoples and Kanata after 1870
NS 115 - Indigenous Peoples and Technoscience
NS 240 - Introduction to Indigenous Legal Issues
NS 290 - Introduction to Research and Inquiry
NS 335 - Indigenous Peoples and the Fur Trade
NS 355 - Indigenous Knowledge and Oral Traditions
NS 435 - Management of Indigenous Natural Resources
PHIL 217 - Biology, Society and Values
PHIL 345 - Humans and Animals
PHIL 368 - Topics in Social Justice
POL S 201 - Introduction to Indigenous Politics
POL S 327 - Indigenous Politics in Canada
POL S 333 - Ecology and Politics
R SOC 365 - Sociology of Environment and Development
R SOC 450 - Environmental Sociology
R SOC 460 - Perspectives on Traditional Knowledge
REN R 260 - History and Fundamentals of Environmental Protection and Conservation
REN R 467 - Methods of Environmental Interpretation and Communication
WGS 390 - Environmental Feminisms and Social Justice

Politics, Society & the Global Environment

General Information:

This concentration introduces students to political and social methodologies relevant for understanding environmental issues from a global perspective.

~~**Requirements of the Concentration (30 units)**~~

~~Approved courses for this concentration are provided on Faculty websites. Other courses may be approved with permission from the academic advisor.~~

Food & Society

General Information:

This concentration is focused on sustainable food and agriculture, incorporating social, political, cultural, economic, ethical, and feminist perspectives on issues of contemporary food production.

~~**Requirements of the Concentration (30 units)**~~

~~Approved courses for this concentration are provided on Faculty websites. Other courses may be approved with permission from the academic advisor.~~

Politics, Society and the Global Environment

General Information:

This concentration introduces students to political and social methodologies relevant for understanding environmental issues from a global perspective.

30 units from

AREC 200 - Current Economic Issues for Agriculture and Food
AREC 365 - Natural Resource Economics
AREC 375 - World Food and Agriculture
ECON 269 - Economics of the Environment
ENCS 473 - Environment and Conservation Policy
HGEO 252 - Human Dimensions of Environmental Hazards
HGEO 443 - Environment and Health
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HGEO 470 - Geographical Information Systems for Social Science
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POL S 201 - Introduction to Indigenous Politics
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R SOC 355 - Rural Communities and Global Economies
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R SOC 430 - Social Impact Assessment
R SOC 450 - Environmental Sociology
R SOC 460 - Perspectives on Traditional Knowledge
SOC 269 - Introductory Sociology of Globalization
SOC 343 - Social Movements

Food and Society

General Information:

This concentration is focused on sustainable food and agriculture, incorporating social, political, cultural, economic, ethical, and feminist perspectives on issues of contemporary food production.

30 units from

ALES 391 - ALES Mexico Tour

[…]	AN SC 200 - Principles of Animal Agriculture AN SC 376 - Animal Welfare AREC 200 - Current Economic Issues for Agriculture and Food AREC 250 - Social and Economic Issues of Food Biotechnology AREC 375 - World Food and Agriculture AREC 471 - Society and Well-Being AREC 473 - Food and Agricultural Policies AREC 485 - Trade and Globalization in Food and Resources ANTHR 372 - Anthropology of Food ANTHR 460 - Nutritional Anthropology HIST 294 - An Introduction to the History of Sciences, Technology, and Medicine INT D 303 - Economics of World Food and Agriculture NU FS 100 - Introduction to Food Science and Technology NU FS 223 - The Cultural Ecology of Food and Health NU FS 442 - Sustainability of Food and Bio-based Products PHIL 279 - Philosophy of Hunting PHIL 345 - Humans and Animals PL SC 100 - Plants in Our Lives PL SC 200 - Urban Plants: Gardening and Sustainability POL S 333 - Ecology and Politics REN R 260 - History and Fundamentals of Environmental Protection and Conservation REN R 450 - Environmentally Sustainable Agriculture REN R 467 - Methods of Environmental Interpretation and Communication R SOC 271 - The Politics of Food and Natural Resources STS 210 - Environment, Science, Culture, and Values WGS 240 - Feminism and Food […]

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

Package Code: AR UGC – 10.04.22

This package contains: Undergraduate - Courses

Faculty approval date:

AAC Date: October 04 ,2022

Page	Department or Unit	What is Changing
2	Sociology	SOC 407, 408 and 444

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

CALENDAR CHANGE REQUEST FORM

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: Sociology

Change: Undergraduate Course

Rationale: SOC 407 & 408 In recognition of the amount of work required to complete the honors capstone courses, the Department would like to change the title of these courses from "Essay" to "Thesis." The Undergraduate Teaching Committee (UTC), and Department Council have approved this change.

SOC 444 The pre-requisite for this course (SOC 346 – Media and the Production of Culture) is no longer offered. Given that the Department does not offer another senior level course in the area of media studies, we would like to use SOC 100 (Introductory Sociology) as the pre-requisite. This change has been approved by the Department's Undergraduate Teaching Committee (UTC) and by Department Council.

https://calendar.ualberta.ca/content.php?filter%5B27%5D=SOC&filter%5B29%5D=&filter%5Bcourse_type%5D=-1&filter%5Bkeyword%5D=&filter%5B32%5D=1&filter%5Bcpage%5D=1&cur_cat_oid=34&expand=&navoid=10323&search_database=Filter&filter%5Bexact_match%5D=1#acalog_template_course_filter

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
SOC 407 - Honors ~~Essay~~ I ★ 3 (fi 6) (either term, 3-0-0) Literature review and proposal stage of Honors ~~Essay~~ completed in SOC 408. Prerequisites: consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to web registration.	SOC 407 - Honors Thesis I ★ 3 (fi 6) (either term, 3-0-0) Literature review and proposal stage of Honors Thesis completed in SOC 408. Prerequisites: consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to web registration.
SOC 408 - Honors ~~Essay~~ II ★ 3 (fi 6) (either term, 3-0-0) Prerequisites: SOC 407 and consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to web registration.	SOC 408 - Honors Thesis II ★ 3 (fi 6) (either term, 3-0-0) Prerequisites: SOC 407 and consent of instructor and Honors Advisor. Note: Restricted to Sociology Honors students. Closed to web registration.
SOC 444 - Critical Media Studies★ 3 (fi 6) (either term, 3-0-0) Analysis of media texts as social forms with emphasis on television, advertising, and emerging media technologies. Prerequisite: SOC ~~346~~ or consent of instructor.	SOC 444 - Critical Media Studies★ 3 (fi 6) (either term, 3-0-0) Analysis of media texts as social forms with emphasis on television, advertising, and emerging media technologies. Prerequisite: SOC 100 or consent of instructor.

Department Contact: Alison Dunwoody	Department Council Approval Date: May 5, 2022
Chair or Designate: Alison Dunwoody	Signature: 

Email a signed PDF and an editable WORD version to artscalendar@ualberta.ca
Contact Lindsay Dobson at the same email address if you need any assistance

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

Package Code: AR – UGMP 10.04.22

This package contains: Undergraduate - Minor Program Changes

Faculty approval date:

AAC Date: February, 8 ,2022

Page	Department or Unit	What is Changing
2	Sociology	Cert. in Applied Social Science Research

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

CALENDAR CHANGE REQUEST FORM

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: Sociology

Change: Undergraduate Minor Program Change

Rationale: Given the recent approval of SOC 404, the Department would like to add this as an option for the Certificate in Applied Social Science Research (CASSR). The Certificate Advisor, the Undergraduate Teaching Committee (UTC), and Department Council have approved this change.
https://calendar.ualberta.ca/preview_program.php?catoid=34&poid=38957&returnto=10264

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Certificate in Applied Social Science Research Certificate Requirements (★15) […] SOC 401 – Honors Individual Study SOC 403 – Individual Study SOC 407 – Honors Essay I SOC 408 – Honors Essay II WGS – Honors Seminar and Project	**Certificate in Applied Social Science Research** Certificate Requirements (★15) […] SOC 401 – Honors Individual Study SOC 403 – Individual Study SOC 404 – Individual Empirical Research Project SOC 407 – Honors Essay I SOC 408 – Honors Essay II WGS – Honors Seminar and Project

Department Contact: Alison Dunwoody	Department Council Approval Date: May 5, 2022
Chair or Designate: Alison Dunwoody	Signature: 

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

Package Code: AR UGC 10.25.22

This package contains: Undergraduate - Courses

Faculty approval date:

AAC Date: November 1,2022

Page	Department or Unit	What is Changing
2	East Asian Studies	EAS 222
3	East Asian Studies	EAS 308
4	East Asian Studies	EAS 322
5	East Asian Studies	EAS 342
6	East Asian Studies	EAS 432
7	East Asian Studies	EAS 422
8	East Asian Studies	EAS 442
9	East Asian Studies	KOREA 215
11	Economics	INT D 231 (second look)
12	Media and Technology Studies	MST 200
13	Media and Technology Studies	MST 299
14	Media and Technology Studies	MST 310
15	Music	MUSIC 315
16	Music	MUSIC 186

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 1, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

This course responds to the calls to action to help foster respectful relations in Canada. East Asia is home to significant numbers of indigenous peoples. Approximately 112 million people or 8.52% of China's total population identify as a "minority nationality" (少数民族 Shaoshu minzu) in official government terminology, representing 55 officially recognized ethnicities. Approximately 470,000 people or 3% of the population of Taiwan identify as indigenous, divided among 17 different groups. It is estimated that in Japan, the indigenous Ainu ethnicity numbers between 25,000 and 200,000 people. Approximately 600,000 people in Korea identify as members of the indigenous Jeju ethnicity. Indigenous peoples of East Asia constitute a significant population with a vast array of cultures, languages, and social practices. This course offers students an introduction to East Asian indigeneity. It benefits students by giving them an opportunity to learn about indigenous peoples and their concerns in a region distant from Canada. It enables students to consider how we may think of indigeneity in a region where the majority population has also lived for a great length of time. The course is interdisciplinary, comprising fiction, poetry, cinema, historical texts, reportage, anthropology, ethnography, biography, and sociological fieldwork. The course emphasizes collective knowledge building and student-centered pedagogy.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number	EASIA 222
Title	East Asian Indigeneity
Course Career Units Approved Hours Fee index Faculty Department Typically Offered	Course Career Undergraduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department East Asian Studies Typically Offered either term
Description	Description Explores indigenous peoples, cultures, and issues of East Asia. No Prerequisites. Taught in English. All readings/viewing in English or with English subtitles.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Things to consider (maximum 500 words, delete these questions before entering your own text):

This new course is proposed to respond to the Department's needs for more course options and particularly courses that directly relate to practical knowledge and skills that students need in the job market dealing with Chinese language, culture and society. To our knowledge, there are no existing comparable or similar courses in our Department or other departments at the University of Alberta. This course will benefit students and the Department in that it provides more course options, particularly career-oriented courses, for EASIA majors and minors to fulfill their degree requirements, and contributes to increasing enrolments and attracting students into our program.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number Title Course Career Units Approved Hours Fee index Faculty Department Typically Offered Description	EASIA 308 Title: Language and Interactions in Chinese Social Institutions Course Career: Undergraduate Units: 3 Approved Hours: 3-0-0 Fee index: 6 Faculty: Arts Department: East Asian Studies Typically Offered: either term Description A Chinese linguistic course that discusses the linguistic patterns used in interactions in Chinese social institutions, such as legal, medical, and classroom interactions. Lectures in English. Prerequisite: EASIA 101 and CHINA 202 or consent of Department.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

This course has been taught three times (Winter 2010, Fall 2020, Fall 2022) under the rubric of EASIA 323 Topics in East Asian Religions, and it is intended to be offered regularly in the future, approximately once every two or three years. Listing the course under a specific title rather than the generic one of EASIA 323, and with a prerequisite different from that of EASIA 323's "EASIA 223 or RELIG 240, or consent of Department," which is not needed for this course on Buddhist art and has depressed enrollments, will make it easier for students to identify the course's specific topic in Beartracks and will present them with a prerequisite that is suitable to the course's specific content and that does not require the instructor pre-emptively to waive the prerequisite by secondary means (mass email, posters, etc.) before every offering. Listing the course in this manner in the Calendar and Beartracks should thus make it easier to promote the course and increase its enrollments. The HADVC division of Art and Design has been consulted (on 7 October 2022) and approves of this proposed course.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number	**EASIA 322**
Title	**Buddhist Art of Asia**
Course Career Units Approved Hours Fee index Faculty Department Typically Offered	Course Career Undergraduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department East Asian Studies Typically Offered either term
Description	Introduction to the history of Buddhist art of South and East Asia. Prerequisite: EASIA 101 and 3 units in EASIA at the senior level, or consent of Department.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Select Department/Unit**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

This course will respond to student interest in the history and aesthetics of animation in Japan. *Animé* is one of Japan's most popular cultural exports, and one that the Japanese government has used as a tool for cultivating soft power abroad through the "Cool Japan" initiative. Further, many people abroad, including many East Asian Studies undergraduates at the University of Alberta, are first exposed to major elements, figures, and events of Japanese history and culture through their representations in *animé*. It is therefore critical for students to be able to understand the history and aesthetics of *animé* as an art form in its own right, as a social force within contemporary Japanese popular culture, and as a vehicle of cultural transmission across the globe. This course will be interdisciplinary, drawing together students from the East Asian Studies program and the Film Studies program, which will ensure that students will have some prior background in either Asian cultural studies or visual analysis; further, the instruction method will encourage students from these different disciplines to share insights and teach each other through collaboration about their respective fields. The course reflects the teaching and research interests of a new faculty member in the Department of East Asian Studies.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number	EASIA 342
Title	Anime: Process, History, and Aesthetics
Course Career Units Approved Hours Fee index Faculty Department Typically Offered	Course Career Undergraduate Units 3 Approved Hours 3-0-2.5 Fee index 6 Faculty Arts Department East Asian Studies Typically Offered either term
Description	Survey of Japanese anime focused on history of the animation industry in Japan, processes and aesthetics of Japanese animation, anime's role in contemporary Japanese popular culture, and global fandoms of anime. Prerequisite: EASIA 101 or FS 100

UNIVERSITY OF ALBERTA

For Office Use: Faculty Approval Date

Calendar Change Request Form - **Course Changes**

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7, 2022

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

This course addresses the material and social aspects of the history of writing and bookmaking in China. It will fill a gap between existing courses in the department on the history of the Chinese language and writing system, and courses on Chinese literature and literary history, by encouraging students to consider the ways the physical forms of material texts influence reading and interpretation. It will also be the University's only course dedicated to book history outside of Europe and the Americas.

Calendar Copy

Originally submitted as EASIS 431 but the number was in use so we are going to use 432.

Current: ~~Removed language~~ (include all parts of course)	**Proposed:** New language
Subject & Number	EASIA 432
Title	The History of the Book in China
Course Career	Undergraduate
Units	3
Approved Hours	3-0-0
Fee index	6
Faculty	Arts
Department	East Asian Studies
Typically Offered	Either term
Description	Addresses material and social aspects of book history in premodern China. Prerequisites: EASIA 101 and *3 in EASIA at a senior level, or consent of Department. Taught in English. All readings in English.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Course Description: This course looks at how the urban crime genre depicts urban space and the social transformations that have taken place with urbanization in the modern era in East Asia. We will trace the history of the genre from the interwar to the postwar era, and how it came to influence and intersect with art house films and other genres. We will follow aesthetic shifts in the formal presentation of urban space in these films, such as the prominence of location shooting in some films and the use of abstracted studio sets in others.
Course Objectives: Students will get an overview of the history of the urban crime genre in East Asian cinema from roughly 1930 to the present. They will also learn about how the genre relates to fears and discourses surrounding urbanization. In particular, we will be focusing on how the crime genre visualizes unseen networks of human relationships in the modern city, and how films in the genre use (or invent) the cityscape. The course reflects the teaching and research interests of a new faculty member in the Department of East Asian Studies.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number	EASIA 422
Title	Urban Crime Film in East Asia
Course Career	Course Career Undergraduate
Units	Units 3
Approved Hours	Approved Hours 3-0-2.5
Fee index	Fee index 6
Faculty	Faculty Arts
Department	Department East Asian Studies
Typically Offered	Typically Offered either term
Description	Seminar on the crime genre in East Asian cinema, focusing on how it visualizes unseen and illicit networks of interaction in urban spaces in the modern and contemporary metropolises of Japan, South Korea, Hong Kong, Taiwan, and China. Prerequisite: EASIA 101 or FS 100

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asian Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Anne Commons
Department/Unit Approval Date:	October 7, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Previously taught as part of EASIA 441, Topics in Japanese Literary History with sufficient success that it is now being proposed as a stand-alone course.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number Title Course Career Units Approved Hours Fee index Faculty Department Typically Offered Description	**EASIA 442** **The Tale of Genji** Course Career Undergraduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department East Asian Studies Typically Offered either term Description A critically-informed exploration and examination of Japan's greatest literary text and its thousand-year reception history. Not open to students with credit in EASIA 441. Prerequisite: EASIA 101 and 3 units in senior-level EASIA, or consent of Department. Not open to Students with Credits in EASIA 441 When the Topic was "Tale of Genji".

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**East Asain Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Kyungsook Kim
Department/Unit Approval Date:	East Asian Studies/October 7th, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Across recent literature on language learning, there is strong consensus among researchers that language and culture cannot be learnt nor understood as separate entities. Rather, by being taught together, students can enhance their communicative skills of language by contextualizing language within cultural experiences. Today, research has transformed this into an integrated curriculum of language and culture. Despite this need of integration, our Korean language program at the University of Alberta, still utilizes a curriculum based solely on functional activities associated with language learning. Indeed, over the years of teaching, the isolated class-based hours of our existing Korean courses have shown that they are not enough to develop proficient skills in listening and reading Korean.

To address this pedagogical gap, this newly proposed course 'Korea 215: K-culture Korean,' leverages the growing interest on K-culture and provides students an opportunity to learn Korean through the contents of K-POP (Korean Pop) and K-drama (Korean drama). This course directly benefits students who wish to learn Korean language, but using an integrated curriculum with Korean culture. This direct immersion in Korean culture would significantly increase students' proficiency in their pronunciation, listening and reading beyond the basic level of Korean. Further, this course can be an additional supplement for students who wish to be better prepared when moving on to higher levels of Korean language courses.

At the department-level, this course can expand the scope of teaching content in our Korean language curriculum. By linking our current curriculum with the culture of K-POP and K-dramas, this expansion will increase the enrollment of students into the Korean Language Program as it promotes inclusivity of students with diverse interests and backgrounds. In all, this new course will allow us to effectively reach students that are interested in expanding their knowledge in both Korean language and culture.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
	Korea 215 K-culture Korean Course Career: Undergraduate Units: 3 Approved Hours: 3-0-0 Fee index: 6 Faculty: Arts Department: East Asian Studies

	Typically Offered: either term Description Designed to develop further basic skills in pronunciation, listening, and reading through the contents of K-POP and K-drama. Prerequisite: Korea 102, or consent of Department.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Economics**
Level of change (choose one only)	Undergraduate
Contact Person:	Chelsi Hudson
Department/Unit Approval Date:	2022-03-21

Rationale for change (Indicate other consultation groups, departments, units or faculties)

This course was suggested by an alumnus, developed at the urging of Dean Lesley Cormack, and included in the Economics teaching plan by Carrie Smith. It is housed in Economics for administrative convenience because there is no longer an Office of Interdisciplinary Studies in Arts. The instructor will use Rick Szostak's very interdisciplinary Making Sense of the Future as the primary text: This is open access at https://www.routledge.com/Making-Sense-of-the-Future/Szostak/p/book/9781032033488 Many universities in the world have programs in Future Studies, and many more have stand-alone courses. The World Future Studies Federation is the international scholarly organization for the field: https://wfsf.org/ There are a handful of scholarly journals in the field, of which the most prominent is Futures. It is recognized in the field that humans are not able to predict the future with precision. We can, though, identify both a set of plausible futures, and also desirable futures, and explore strategies for moving from one to the other. We are better able to achieve desirable futures if we engage in such exercises. The field has developed several methods such as the futures wheel, delphi method, and scenario planning, which will be applied in the course. The United Nations, European Union, and many governments in the world have "future studies" operations, and many private firms engage in future planning exercises. It is useful, then, for students to have some knowledge of the field of Future Studies. They can aspire to play a leading role in discussions around the future. We are offering this as a Topics course in Winter 2023 with 25 students registered.

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
	INT D 231 Introduction to Futures Studies Course Career Undergraduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department Economics Typically Offered either term Description A survey course on Futures Studies. Approaching contemporary issues from a perspective of planning for surprises, identifying both plausible and desirable futures, and plotting strategies for moving from plausible to desirable. Topics may include climate change, economic inequality, the future of work with automation, weakening democracy, refugees, terrorism, pandemics, and conspiracy theories.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Media and Technology Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Michael Litwack
Department/Unit Approval Date:	October 17, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

This change requested by the Media Studies Curriculum Committee will make MST100 (Introduction to Media Studies) a pre-requisite for MST200 (Media Theory). Currently, MST100 is a co-requisite for MST200. Both MST200 instructors and students have found that students enroled in this course without completing MST100 are not prepared to engage rigorously with the upper-level materials. This revision will thus better equip students to navigate to the Media Studies major. It will also create more consistency in the curriculum, since it will make MST100 a co-requisite for both existing 200-level courses (MST 200 and MST210: Contemporary Media Culture, which already requires MST100 as a prerequisite).

We respectfully request that this change becomes effective for Fall 2023.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number MST 200 **Title:** Media Theory **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Media and Technology Studies **Typically Offered** either term **Description** A genealogy of advanced Media Studies theories and approaches in their historical contexts. ~~Corerequisite:~~ MST 100.	**Subject & Number** MST 200 **Title:** Media Theory **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Media and Technology Studies **Typically Offered** either term **Description** A genealogy of advanced Media Studies theories and approaches in their historical contexts. Prerequisite: MST 100.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Media and Technology Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Jobey Wills
Department/Unit Approval Date:	October 19, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

In previous years, the Curriculum committee introduced the creation of MST 499 and will soon have MST 399 as dedicated MST courses that can be offered as approved electives for our Media Studies major requirements. This year the Curriculum Committee decided that we also want to expand this to MST 299 to include dedicated MST course offerings at the 200, 300 & 400 levels.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
NEW	**MST 299** **Special Topics in Media Studies** Course Career Undergraduate Units 3 Approved Hours 0-3s-0 Fee index 6 Faculty Arts Department Media and Technology Studies Typically Offered either term Description Prerequisite: MST100 or consent of the Program Administrator. May be repeated for credit when course content differs.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Media and Technology Studies**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Michael Litwack
Department/Unit Approval Date:	October 17, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Course name and description are being changed to make them shorter and more transparent for students. The revised title also better reflects the content of this required course. It further clarifies that this 300-level course builds on, and provides an in-depth study of, those theories and methods in the political economy of media to which students are introduced in MST 100 (Introduction to Media Studies), MST 200 (Media Theory), and MST 300 (Researching Media).

Offerings in the "Political Economy of Media" are standard in many Media and Communication Studies programs across Canada. An understanding of the political economy of media is also essential for understanding the professional, work, and labour conditions of media and creative workers across a wide range of media industries.

Consultations regarding this revision have involved the Media Studies Curriculum Committee and MST instructors. It involves no change to the program structure.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
Subject & Number MST 310 **Title:** Media ~~Professions, Institutions and Ethics~~ **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Media and Technology Studies **Typically Offered** either term **Description** Theoretical and ~~ethical~~ issues surrounding the political ~~economy~~ of media~~, democracy, censorship, and freedom of expression, regulation and control, privacy, surveillance, and sousveillance~~. Prerequisite: MST 100.	**Subject & Number** MST 310 **Title:** Political Economy of Media **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Media and Technology Studies **Typically Offered** either term **Description** Theoretical and cultural issues surrounding the political-economic structures, institutions, and power relations of media. Prerequisite: MST 100.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Select Department/Unit**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Angela Schroeder (angela4@ualberta.a
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

The Department is requesting to add this registration priority for BMus/BEd and BEd (Secondary) Music Major students because these are the only two programs that require MUSIC 315. For other programs the course may be taken as a MUSIC Option.

MUSIC 150 has not been offered in over a decade and will unlikely be presented as a prerequisite rather than MUSIC 156, and so should be removed from that line.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
MUSIC 315 - Introduction to Conducting **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Music **Typically Offered** first term **Description** Development of basic conducting techniques and score reading. Prerequisites: MUSIC ~~150 or~~ 156~~,~~ and 151, or equivalent	**MUSIC 315 - Introduction to Conducting** **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Music **Typically Offered** first term **Description** Development of basic conducting techniques and score reading. Prerequisites: MUSIC 156 and 151, or equivalent. Registration priority will be given to BMus/BEd and BEd Music Major students.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change (choose one only)	☒ Undergraduate ☐ Graduate
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Last year the Music Department decided on a set of changes across all its undergraduate programs, redefining their foundational requirements. In particular, a brand new and innovative 100-level course (MUSIC 186 Musical Life Today) was created to replace previous mandatory courses for first-year students.

MUSIC 186 is part of a broader move away from Western supremacy in our curriculum. The Academic Area of our Department worked together to define a collective vision of "foundational musical knowledge" at the U of A in 2022. Since the matter is this significant, we considered several options for the description of MUSIC 186, and voted the one below on the right.

However, in the process of having the description approved, someone edited it as you see on the left. **There followed a procedural oversight: the Academic Area was *not* consulted back about these edits**, which became part of the calendar. As the convener of the Academic Area in 2021-22 and the leader of this project, Dr Fabio Morabito remains available to clarify why the Area selected certain terms and not other ones. But our keywords were chosen carefully: musical "traditions and cultures" is not the same as "genres." In fact, we envisioned this course to go beyond a typical survey of genres, which potentially exemplifies a "colonial" structure of knowledge (see Solie 1993; Kajikawa 2017). The addition of the term "genre" and other **edits suggest something that the course was specifically designed *not to do***. Musical "localities" is very different from "places." Location is more neutral, as it refers to the actual latitude and longitude coordinates on Earth's surface. Place, on the other hand, refers to "the human characteristics of a spot on the map" which, when paired with "musical," has been criticized in scholarship for suggesting too deterministic an understanding of the music-making happening there (as if, say, Paris makes the music happening there "Parisian").

There is also a specific reason for our second sentence. Learning to be in dialogue with a plurality of notions of "what music is" is a key course objective. The course aims to introduce students to the many and multifaceted ways in which music can be an object of study, both within the university and outside of it. Those examples gesture precisely to the "many and multifaceted" kinds of engagement considered in the course. No other course in our department offers a perspective this wide. It thus needs to be spelled out in the description, especially as we advertise MUSIC 186 to students across the University as a course that is not about (and does not require) what is typically considered the academic knowledge of music. In this respect, **the current description is too vague**. **The proposed calendar change will correct all these issues**.

The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change. The resulting description is not longer than many other ones in our course catalogue.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language

MUSIC 186 - Musical Life Today **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Music **Typically Offered** first term **Description** ~~Explores how people engage with musical genres, practices, and traditions across different cultures and places.~~	MUSIC 186 - Musical Life Today **Course Career** Undergraduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Arts **Department** Music **Typically Offered** first term **Description** Explores how people engage with music across different traditions, cultures and localities. The course considers engagements of all kinds, from practicing for a concert to whistling at the bus stop or dancing at a community drum circle.

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

Package Code: AR UGMP 10.25.22

This package contains: Undergraduate - Minor Program Changes

Faculty approval date:

AAC Date: November 1,2022

Page	Department or Unit	What is Changing
2	Anthropology & History, Classics and Religion	Certificate in Archeology
5	Modern Languages and Cultural Studies	MLCS Certificate in Translation Studies
9	Media and Technology Studies	MST Major - Electives
11	Media and Technology Studies	STS Major - Electives
13	Music	BMus - Composition and Sonic Arts
16	Music	BMus - General
18	Music	BMus - Performance - Guitar
20	Music	BMus - Performance - Piano
23	Music	BMus - Performance - Strings & Harp
26	Music	BMus - Performance - Wind & Procession
28	Music	BMus - Performance - Voice

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Anthropology**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☒ Yes New – CLASS 472 & CLASS 477
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Steven Hijmans
Department/Unit Approval Date:	10.21.22

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Changes requested to clearly communicate some intricacies of the field school requirements. The conversation lead to the acknowledgement that a website is needed. That is in the works. The Faculty moved the certificate requirements into a more standard format to clarify faculty regulations.

The Classics program is adding some new 400-level course numbers, two of which concern Classical Archaeology and should be included in the list of courses fulfilling Certificate requirements. This change has been approved by Classics Section and by the Archaeology Certificate Director.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=43139

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Certificate in Archaeology The Certificate in Archaeology is designed to develop students' research skills in archaeology through a combination of course work and hands-on experience. ~~This is a multidisciplinary certificate offered jointly through the Department of Anthropology and the Department of History, Classics, and Religion. This certificate is open to any undergraduate student at the University of Alberta~~. ~~The~~ certificate will indicate to employers and graduate schools that the students have taken a select range of courses that have given them a thorough grounding in the basic principles and practices of archaeology. ~~To be awarded the certificate students must apply through Undergraduate Student Services in the Faculty of Arts by the application deadline for convocation (see Academic Schedule) and have~~	**Certificate in Archaeology** The Certificate in Archaeology is designed to develop students' research skills in archaeology through a combination of course work and hands-on experience. Successful completion of this certificate will indicate to employers and graduate schools that the students have taken a select range of courses that have given them a thorough grounding in the basic principles and practices of archaeology. • **Certificate Type**: Embedded • **Application**: No • **Offered jointly by:** The Department of Anthropology and the Department of History, Classics and Religion • **Who can take it:** All Undergraduate Students

~~approval from either the Department of Anthropology or the Department of History, Classics, and Religion. Students are encouraged to apply by the beginning of their third year. Preference will be given to certificate students in the selection process for field schools.~~ ~~Students may pursue the Certificate in Archaeology by fulfilling existing requirements for majors, minors or honors in their respective disciplines and by completing 27 units in Archaeology coursework as follows:~~ **Certificate Requirements** ANTHR 206 - Introduction to Archaeology CLASS 220 - Introduction to the Methodology, Theory and Practice of Classical Archaeology ~~**6 units from:**~~ ANTHR 396 - Archaeological Field Training CLASS 475 - Techniques of Classical Field Archaeology CLASS 476 - Advanced Field Techniques in Classical Archaeology **Note:** ~~Certain field school courses offered outside of the University of Alberta may be accepted if approved in advance by the undergraduate advisor for the certificate.~~ **15 units from:** ~~approved Archaeology courses including:~~ ANTHR 219 - World Prehistory ANTHR 256 - Alberta Archaeology CLASS 254 - Introduction to Greek Art and Archaeology CLASS 255 - Introduction to Roman Art and Archaeology EAS 221 - Introduction to Geographical Information	**Certificate Requirements** (27 Units) ANTHR 206 - Introduction to Archaeology CLASS 220 - Introduction to the Methodology, Theory and Practice of Classical Archaeology **Archaeological Field School (6 units)** All students need to visit the webpage for important information about the application procedures for the field schools courses as they can vary from year to year. Website currently being created ANTHR 396 - Archaeological Field Training CLASS 475 - Techniques of Classical Field Archaeology CLASS 476 - Advanced Field Techniques in Classical Archaeology **Note:** Students may apply to transfer credit from field school courses offered outside of the University of Alberta to ANTHR 396 or CLASS 475/476 as appropriate. To do so, students must consult with the undergraduate advisor of the Department of Anthropology or the Department of History, Classics and Religion, as appropriate before enrolling in the outside field school. Applications submitted after the outside field school has taken place, will not be accepted. **15 units from:** ANTHR 219 - World Prehistory ANTHR 256 - Alberta Archaeology CLASS 254 - Introduction to Greek Art and Archaeology CLASS 255 - Introduction to Roman Art and Archaeology

Systems and Remote Sensing EAS 222 - Stratigraphy and Sedimentation Note:	EAS 221 - Introduction to Geographical Information Systems and Remote Sensing **OR** EAS 222 - Stratigraphy and Sedimentation **With a minimum of:** […] c. 3 units at the 400-level from: […] CLASS 400 - Topics in the Culture and Society of Greco-Roman Antiquity CLASS 472 - Topics in Greek Archaeology CLASS 473 - Topics in Classical Archaeology CLASS 477 - Topics in Roman Archaeology CLASS 478 - Topics in Roman Art […] Notes: […] 3. Only one of EAS 221 and EAS 222 may be used toward this requirement. **Application to graduate with this certificate** An Embedded Certificate can only be awarded at the time of Graduation. When Faculty of Arts students apply to graduate in Bear Tracks they must also declare certificate completion (see Academic Schedule). Students from other faculties must apply for this certificate through Undergraduate Students Services in the Faculty of Arts by the application deadline for convocation. **Contact Information:** For further information about this certificate program, students should consult with an Undergraduate Advisor in the Department of Anthropology or the Department of History, Classics, and Religion.

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Modern Languages and Cultural Studies**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Claudia Kost
Department/Unit Approval Date:	DC: October 3, 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

In[CK1] order to allow our students to complete the MLCS Certificate in Translation Studies in a more timely manner, we are making some of the requirements more flexible.

Students in the German area will be able to take both GERM 443 (Advanced Translation: German into English) and GERM 444 (Exercises in Translation: English into German) if they wish, one as a required course, one counting as an option. Students will also have more flexibility to choose between available courses at the 300- and 400-level (in the target language) for the 9 units in options.

Students in the Spanish area will be able to take 6 units at the 300-level (where more courses are offered than at the 400-level) and 3 units at the 400-level as options (in addition to the required SPAN 405 (Exercises in Translation: Spanish into English) and SPAN 406 (Exercises in Translation: English into Spanish).

With the proposed changes, it is expected that students taking the MLCS Certificate in Translation Studies will be in a better position to complete it in a timely manner and without additional accommodations.

- Consultation was made with the Spanish and German areas.

Note a minor program change to the Ukrainian Specialization is currently being approved at department council.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42273

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
~~MLCS Certificate in Translation Studies Undergraduate students in all Faculties may pursue this certificate in translation while completing the undergraduate program in their respective Faculties by taking the designated courses for a minimum of 21 units.~~ While the certificate does not prepare students to be full-fledged translators upon graduation, it provides them with the necessary focus to	While the MLCS Certificate in Translation Studies[CK2] does not prepare students to be full-fledged translators upon graduation, it provides them with the necessary focus to pursue further

pursue further training in the profession. Furthermore, since the certificate puts the emphasis on cultural literacy, students who complete its requirements will have honed their skills in their area of specialization and will be ready to embark on many types of careers requiring cultural expertise, ~~(for example~~ the foreign service, foreign trade, business abroad, tourism~~)~~. ~~Students, particularly Business and Faculties other than Arts, Science, and Education, and strongly urged to consult their respective Undergraduate Programs Office for advice on how to fit this certificate within their undergraduate program.~~	training in the profession. Furthermore, since the certificate puts the emphasis on cultural literacy, students who complete its requirements will have honed their skills in their area of specialization and will be ready to embark on many types of careers requiring cultural expertise e.g., the foreign service, foreign trade, business abroad, tourism. • Certificate Type: Embedded • Application: No • Offered by: Modern Languages and Cultural Studies • Who can take it: All Undergraduate Students **Notes:** 1. All students should refer to the certificate website for additional information. 2. Students not in the Arts, Science and Education faculties should consult with their home faculty's Undergraduate Programs or Student Services Office to see how the certificate can fit into their programs. **Certificate Requirements (21 units)** MLCS 300 - Introduction to Translation MLCS 400 - The History of Translation **Specialization Requirements (15 Units)**
French: Required courses ~~MLCS 300 - Introduction to Translation~~ ~~MLCS 400 - The History of Translation~~ FREN 254 - Introduction to Translation Theory and Practice: French-English-French	**French** **Required courses (9 units)** FREN 254 - Introduction to Translation Theory and Practice: French-English-French FREN 354 - Translation: French into English

FREN 354 - Translation: French into English FREN 454 - Translation: English into French 3 units in FREN or FRANC or LINGQ or AUFRE at the 300-level ~~in addition to FREN 354~~ 3 units in FREN or FRANC or LINGQ or AUFRE at the 400-level ~~in addition to FREN 454~~	FREN 454 - Translation: English into French **3 units from:** FREN or FRANC or LINGQ or AUFRE at the 300-level **3 units from:** FREN or FRANC or LINGQ or AUFRE at the 400-level
German~~:~~ Required courses ~~MLCS 300 - Introduction to Translation~~ ~~MLCS 400 - The History of Translation~~ GERM 342 - Introduction to Translation: German and English GERM 443 - Advanced Translation: German into English ~~OR~~ GERM 444 - Exercises in Translation: English into German ~~3 units in GERM or AUGER at the 300-level numbered above 304~~ ~~6 units in GERM or AUGER at the 400-level (not including GERM 443 and 444)~~ **Note:** ~~The Department encourages students to consult the Undergraduate Academic Advisor for German Studies.~~ ~~Refer to Notes under Honors in German.~~	**German** **Required courses (6 units)** GERM 342 - Introduction to Translation: German and English **One of:** GERM 443 - Advanced Translation: German into English GERM 444 - Exercises in Translation: English into German **9 units from:** GERM or AUGER at the 300- and/or 400-level (numbered above 304) **Note:** Students may apply GERM 443 or GERM 444 to the required 9 units in options if not previously used to fulfill another requirement.
Spanish~~:~~ Required courses ~~MLCS 300 - Introduction to Translation~~ ~~MLCS 400 - The History of Translation~~ SPAN 405 - Exercises in Translation: Spanish into English SPAN 406 - Exercises in Translation: English into Spanish ~~3~~ units in SPAN or AUSPA at the 300-level	**Spanish** **Required courses (6 units)** SPAN 405 - Exercises in Translation: Spanish into English SPAN 406 - Exercises in Translation: English into Spanish **6 units from:**

~~6~~ units in SPAN or AUSPA at the 400-level in addition to those listed above. **Ukrainian~~:~~** **Required courses** ~~MLCS 300 - Introduction to Translation~~ ~~MLCS 400 - The History of Translation~~ UKR 413 12 units in UKR at the 300- and/or 400-level ~~in addition to those listed above.~~	SPAN or AUSPA at the 300-level (excluding 300 and 306[CK3]) **3 units from:** SPAN or AUSPA at the 400-level **Ukrainian** **Required courses (3 units)** UKR 413 - Translation in the Global Economy: Ukrainian-English-Ukrainian **12 units from:** UKR at the 300- and/or 400-level in addition to those listed above. **Application to graduate with this certificate** An Embedded Certificate can only be awarded at the time of Graduation. When Faculty of Arts students apply to graduate in Bear Tracks they must also declare certificate completion (see Academic Schedule). Students from other faculties must apply for this certificate through Undergraduate Students Services in the Faculty of Arts by the application deadline for convocation. **Contact Information:** For further information about this certificate program, students should consult with an Undergraduate Advisor in the Department of Modern Languages and Cultural Studies.

UNIVERSITY OF ALBERTA

Calendar Change Form for Program and Regulations

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Media and Technology Studies**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Contact Person	Jobey Wills
Department/Unit Approval Date	Media and Technology Studies
(For Faculty Use) AAC Date:	☐ Additional Documentation Attached

Rationale for change (Indicate other consultation groups, departments, units or faculties)

New courses have been identified and added to count as approved electives toward the MTS major. These courses have been added because they support the program's learning outcomes. Area coordinator and curriculum committee have been consulted. Courses no longer offered have been deleted.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42208&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Major in Media Studies [Arts] […] **24 units from the list of approved courses, including the following:** ANTHR 230 - Anthropology of Science, Technology, and Environment ART 134 - Art Fundamentals C LIT 210 - Literature in the Digital Age C LIT 228 - Literature, Popular Culture, and the Visual Arts C LIT 352 - Literature and the Other Arts C LIT 440 - Comparative Studies in Popular Culture DES 135 - Design Fundamentals EASIA 260 EASIA 351 - Culture and Identity in Taiwan EASIA 436 - Topics in Chinese Literature and Film ENGL 301 - Topics in Genre ENGL 303 - Digital Culture ENGL 385 - Topics in Popular Culture ENGL 395 - Topics in Print Culture and Media Studies ENGL 398 - Histories of Reading ENGL 424 - Studies in the History of Books ENGL 483 - Studies in Popular Culture ENGL 484 - Studies in Literature and Film ENGL 486 - Studies in Computer Technologies and Culture	**Major in Media Studies [Arts]** […] **24 units from the list of approved courses, including the following:** ANTHR 230 - Anthropology of Science, Technology, and Environment ART 134 - Art Fundamentals C LIT 210 - Literature in the Digital Age C LIT 228 - Literature, Popular Culture, and the Visual Arts C LIT 352 - Literature and the Other Arts C LIT 440 - Comparative Studies in Popular Culture DES 135 - Design Fundamentals EASIA 260 EASIA 351 - Culture and Identity in Taiwan EASIA 372 - K-Pop and Korean Culture EASIA 436 - Topics in Chinese Literature and Film ENGL 301 - Topics in Genre ENGL 303 - Digital Culture ENGL 385 - Topics in Popular Culture ENGL 387 Youth Cultures ENGL 397 History of the Book ENGL 395 - Topics in Print Culture and Media Studies ENGL 398 - Histories of Reading ENGL 424 - Studies in the History of Books ENGL 483 - Studies in Popular Culture ENGL 484 - Studies in Literature and Film ENGL 486 - Studies in Computer Technologies and Culture

FREN 445 - Contemporary Cinema in French	FREN 445 - Contemporary Cinema in French
FS 201 - Introduction to Film History I	FS 201 - Introduction to Film History I
FS 202 - Introduction to Film History II	FS 202 - Introduction to Film History II
FS 203 - Television from Broadcasting to Screen Cultures	FS 203 - Television from Broadcasting to Screen Cultures
FS 215 - Introduction to Film Theory	FS 215 - Introduction to Film Theory
FS 309 - Quebec Film	FS 309 - Quebec Film
FS 310 - English-Canadian Film	FS 310 - English-Canadian Film
	FS 318 Science Fiction Film
FS 321 - Animation	FS 321 - Animation
FS 322 - Gender and Sexuality in Film	FS 322 - Gender and Sexuality in Film
	FS 324 Monsters, Slashers and Ghosts
	FS 333 Experimental Film
FS 340 - Making Television: Production Cultures	FS 340 - Making Television: Production Cultures
FS 341 - Television Genres	FS 341 - Television Genres
FS 386 - Screening Race	FS 386 - Screening Race
FS 410 - Topics in Filmmakers	FS 410 - Topics in Filmmakers
FS 412 - Topics in Film Studies	FS 412 - Topics in Film Studies
FS 415 - Global Television and Screen Cultures	FS 415 - Global Television and Screen Cultures
	FS 416 Analyzing Television
	GERM 225 German Cinema
GERM 343 - Postwar Cultures	GERM 343 - Postwar Cultures
~~GERM 345~~	
~~GERM 455~~	
HADVC 210 - History of Photography	HADVC 210 - History of Photography
HADVC 256 - History of Art, Design, and Visual Culture in the Contemporary Era	HADVC 256 - History of Art, Design, and Visual Culture in the Contemporary Era
	HADVC 257 - History of Art, Design, and Visual Culture in Canada
HIST 293 - History of Science, Technology and Medicine: Key Moments	HIST 293 - History of Science, Technology and Medicine: Key Moments
HIST 391 - History of Technology	HIST 391 - History of Technology
HIST 486 - Topics in the History of Technology	HIST 486 - Topics in the History of Technology
INT D 350 - Game Design Principles and Practice	INT D 350 - Game Design Principles and Practice
INT D 450 - Computers and Games	INT D 450 - Computers and Games
LA ST 310 - Latin America at the Movies	LA ST 310 - Latin America at the Movies
MLCS 473 - Cultural Representations, World Media and Ethics	MLCS 473 - Cultural Representations, World Media and Ethics
MLCS 475 - X-Rated: Sex on Screen	MLCS 475 - X-Rated: Sex on Screen
MST 350 - Understanding Video Games	MST 350 - Understanding Video Games
MST 351 - Understanding Video Games	MST 351 - Understanding Video Games
MST 497 - Directed Reading in Media Studies	MST 497 - Directed Reading in Media Studies
	MST 299 – Special Topics in Media Studies
	MST 399 – Special Topics in Media Studies
MST 499 - Special Topics in Media Studies	MST 499 - Special Topics in Media Studies
MUSIC 103 - Introduction to Popular Music	MUSIC 103 - Introduction to Popular Music
MUSIC 203 - Issues in Popular Music Studies	MUSIC 203 - Issues in Popular Music Studies
MUSIC 245 - Introduction to Music Technologies	MUSIC 245 - Introduction to Music Technologies
MUSIC 445 - Electroacoustic Music	MUSIC 445 - Electroacoustic Music
MUSIC 488 - Studies in Music and Film	MUSIC 488 - Studies in Music and Film
PHIL 365 - Philosophy of Computing	PHIL 365 - Philosophy of Computing
PHIL 366 - Computers and Culture	PHIL 366 - Computers and Culture
	PHIL 383 Film and Philosophy
POL S 418 - Media and Politics in Canada	POL S 418 - Media and Politics in Canada
POL S 448 - Gender Politics and Mass Media	POL S 448 - Gender Politics and Mass Media
RUSS 404 - Russian Film	RUSS 404 - Russian Film
SCAND 356 - Women in Scandinavian Literature and Popular Culture	SCAND 356 - Women in Scandinavian Literature and Popular Culture
SOC 226 - Surveillance Studies	SOC 226 - Surveillance Studies

~~SOC 344~~ SOC 345 - Cultural Studies ~~SOC 346~~ SOC 369 - Sociology of Globalization ~~SOC 477~~ SPAN 325 - Introduction to Cinema SPAN 425 - Hispanic Filmmakers STS 200 - Introduction to Studies in Science, Technology and Society WGS 101 - Representations of Girls and Women WGS 220 - Feminism and Popular Culture WGS 321 - Feminism and Film	SOC 345 - Cultural Studies SOC 369 - Sociology of Globalization SOC 444 Critical Media Studies SPAN 325 - Introduction to Cinema SPAN 425 - Hispanic Filmmakers STS 200 - Introduction to Studies in Science, Technology and Society WGS 101 - Representations of Girls and Women WGS 220 - Feminism and Popular Culture WGS 321 - Feminism and Film

UNIVERSITY OF ALBERTA

Calendar Change Form for Program and Regulations

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Media and Technology Studies**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Contact Person:	Jobey Wills
Department/Unit Approval Date:	Media and Technology Studies
(For Faculty Use) AAC Date:	☐ Additional Documentation Attached

Rationale for change (Indicate other consultation groups, departments, units or faculties)

New courses have been identified and added to count as approved electives toward the STS major/minor. These courses have been added because they support the program's learning outcomes. Area coordinator and curriculum committee have been consulted. Courses no longer offered have been deleted.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42208

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Major in Science, Technology and Society [Arts] […] **Additional credits must be chosen among the following:** ANTHR 230 - Anthropology of Science, Technology, and Environment ANTHR 332 - Anthropology of Science HADVC 209 - History of Modern Design CHRTC 350 - Science and Religion: Christian Perspectives CLASS 294 - Ancient Science, Technology, and Medicine CMPUT 300 - Computers and Society ECON 222 - Technology, Institutions and Economic Growth ENGL 304 ENGL 486 - Studies in Computer Technologies and Culture FS 318 - Science Fiction Film FS 387 - Film and Technology HIST 353 - History of American Medicine HIST 391 - History of Technology HIST 394 - History of Astronomy and Cosmology from Stonehenge to the Space Age HIST 397 - History of Science I HIST 398 - History of Science II	**Major in Science, Technology and Society [Arts]** […] **Additional credits must be chosen among the following:** AREC 375 - World Food and Agriculture ANTHR 230 - Anthropology of Science, Technology, and Environment ANTHR 332 - Anthropology of Science HADVC 206 - History of Art and Design and Visual Culture in the early 20th Century HADVC 209 - History of Modern Design CHRTC 350 - Science and Religion: Christian Perspectives CLASS 294 - Ancient Science, Technology, and Medicine CMPUT 300 - Computers and Society ECON 222 - Technology, Institutions and Economic Growth ENGL 304 ENGL 486 - Studies in Computer Technologies and Culture FS 318 - Science Fiction Film FS 387 - Film and Technology HIST 353 - History of American Medicine HIST 391 - History of Technology HIST 394 - History of Astronomy and Cosmology from Stonehenge to the Space Age HIST 397 - History of Science I HIST 398 - History of Science II

HIST 486 - Topics in the History of Technology HIST 496 - Topics in the History of Science HIST 497 - History of Women and Health	HIST 486 - Topics in the History of Technology HIST 496 - Topics in the History of Science HIST 497 - History of Women and Health INT D 222 - Indigenous Health in Canada INT D 303 - Economics of World Food and Agriculture INT D 380 - Canada's Western Cordillera: Advanced Interdisciplinary Mountain Studies INT D 420 - Perspectives on Inclusive and Global Health
MST 350 - Understanding Video Games MST 351 - Understanding Video Games	MST 350 - Understanding Video Games MST 351 - Understanding Video Games NS 115 - Indigenous Peoples and Technoscience NS 435 - Management of Indigenous Natural Resources
PHIL 217 - Biology, Society, and Values PHIL 250 - Contemporary Ethical Issues PHIL 325 - Risk, Choice, and Rationality PHIL 355 - Environmental Ethics PHIL 365 - Philosophy of Computing PHIL 366 - Computers and Culture ~~PHIL 375~~ ~~PHIL 411~~ PHIL 412 - Topics in Philosophy of Science SOC 291 - Introduction to Environmental Sociology STS 210 - Environment, Science, Culture, and Values STS 397 - Special Topics in Science, Technology and Society STS 497 - Science, Technology and Society WGS 250 - Gender and Science	PHIL 217 - Biology, Society, and Values PHIL 250 - Contemporary Ethical Issues PHIL 325 - Risk, Choice, and Rationality PHIL 345 - Humans and Animals PHIL 355 - Environmental Ethics PHIL 365 - Philosophy of Computing PHIL 366 - Computers and Culture PHIL 367 - Introduction to Philosophy of Mathematics PHIL 386 - Health Care Ethics PHIL 412 - Topics in Philosophy of Science SOC 291 - Introduction to Environmental Sociology STS 210 - Environment, Science, Culture, and Values STS 397 - Special Topics in Science, Technology and Society STS 497 - Science, Technology and Society WGS 244 - Critical Disability Studies WGS 250 - Gender and Science WGS 390 - Environmental Feminisms and Social Justice

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Last year the Music Department decided on a set of changes across all its undergraduate programs, redefining their foundational requirements. In particular, a brand new and innovative 100-level course (MUSIC 186 Musical Life Today) was created to replace previous mandatory courses for first-year students.

However, in readjusting these requirements and related course prerequisites, an error was introduced. **MUSIC 283** Western Art Music, Ancient-1800 **was mistakenly moved from the second to the first year**. MUSIC 283 is by all means a 200-level course, designed for students with at least one year of university studies under their belt. The course description makes it explicit: *A study of music history and culture in the West up to circa 1800, exploring social, stylistic, material and intellectual perspectives with attention to listening, score reading, research, critical thinking, and communication skills*. We do not expect our first-year students to work on independent research skills on their first term at university. In fact, we designed a much more gradual educational trajectory: MUSIC 186 is the prerequisite to MUSIC 283, and it provides all the skills helping students transition into university studies. For instance, one key difference is that, in MUSIC 186, students engage in short reflective writing tasks, but no proper academic essays; once they take MUSIC 283, instead, they are taught academic writing skills, how to use a referencing system, how to evaluate other scholars' opinions and engage with them in writing, etc.

Scaffolding skills as they do, the two courses belong to different years of the program. At the moment, and only as a result of a mistake in previous changes, MUSIC 283 runs at the same time as its prerequisite, which not only is counterintuitive but also makes it hard for students to take the two courses. **The proposed calendar change will correct this issue, reinstating MUSIC 283 to the second year**.

The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

Composition and Sonic Arts Route [Arts]

Year 1 (33 units)

- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
- MUSIC 129 - Fundamental Keyboard Skills

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

One of

- MUSIC, Arts, or Science option (3 units)
- MUSIC 170 - Introduction to Composition, and Sonic Arts

One of

- 3 units of Junior ENGL
- WRS 101 - Exploring Writing

Year 2 (33 units)

- ~~MUSIC, Arts, or Science option (3 units)~~
- MUSIC 193 - Experimental Improvisation Ensemble
- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 263 - Instrumentation and Arranging
- MUSIC 270 - Composition and Sonic Arts 1

- MUSIC 284 - Western Art Music, 1800-Present
- MUSIC 463 - Orchestration

Composition and Sonic Arts Route [Arts]

Year 1 (33 units)

- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
- MUSIC 129 - Fundamental Keyboard Skills

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

One of

- MUSIC, Arts, or Science option (3 units)
- MUSIC 170 - Introduction to Composition, and Sonic Arts

One of

- 3 units of Junior ENGL
- WRS 101 - Exploring Writing

One of

- MUSIC, Arts, or Science option (3 units)

Year 2 (33 units)

- MUSIC 193 - Experimental Improvisation Ensemble
- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 263 - Instrumentation and Arranging
- MUSIC 270 - Composition and Sonic Arts 1
- MUSIC 283 - Western Art Music, Ancient-1800
- MUSIC 284 - Western Art Music, 1800-Present
- MUSIC 463 - Orchestration

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Last year the Music Department decided on a set of changes across all its undergraduate programs, redefining their foundational requirements. In particular, a brand new and innovative 100-level course (MUSIC 186 Musical Life Today) was created to replace previous mandatory courses for first-year students.

However, in readjusting these requirements and related course prerequisites, an error was introduced. **MUSIC 283** Western Art Music, Ancient-1800 **was mistakenly moved from the second to the first year**. MUSIC 283 is by all means a 200-level course, designed for students with at least one year of university studies under their belt. The course description makes it explicit: *A study of music history and culture in the West up to circa 1800, exploring social, stylistic, material and intellectual perspectives with attention to listening, score reading, research, critical thinking, and communication skills*. We do not expect our first-year students to work on independent research skills on their first term at university. In fact, we designed a much more gradual educational trajectory: MUSIC 186 is the prerequisite to MUSIC 283, and it provides all the skills helping students transition into university studies. For instance, one key difference is that, in MUSIC 186, students engage in short reflective writing tasks, but no proper academic essays; once they take MUSIC 283, instead, they are taught academic writing skills, how to use a referencing system, how to evaluate other scholars' opinions and engage with them in writing, etc.

Scaffolding skills as they do, the two courses belong to different years of the program. At the moment, and only as a result of a mistake in previous changes, MUSIC 283 runs at the same time as its prerequisite, which not only is counterintuitive but also makes it hard for students to take the two courses. **The proposed calendar change will correct this issue, reinstating MUSIC 283 to the second year**.

The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

General Route [Arts]

Year 1 (33 units)

- 3 units of Junior ENGL **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~

3 ~~units~~ in

- MUSIC, Arts, or Science option (~~3 units~~)

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
- MUSIC 129 - Fundamental Keyboard Skills

One of

- MUSIC 140 - Choral Ensemble **OR**
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV

- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble **OR**
- MUSIC 441 - Instrumental Ensemble

6 ~~units~~ in

- MUSIC, Arts, or Science Option (~~6 units~~)

[…]

General Route [Arts]

Year 1 (33 units)

- 3 units of Junior ENGL **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

6 units in

- MUSIC, Arts, or Science option (6 units)

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
- MUSIC 129 - Fundamental Keyboard Skills

One of

- MUSIC 140 - Choral Ensemble **OR**
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 283 - Western Art Music, Ancient-1800
- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble **OR**
- MUSIC 441 - Instrumental Ensemble

3 units in

- MUSIC, Arts, or Science Option (3 units)

[…]

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

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https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

Performance Route - Guitar [Arts]

[…]

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
  OR
- MUSIC 129 - Fundamental Keyboard Skills

~~3~~ units in

- MUSIC, Arts, or Science option (~~3~~ units)

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV

- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble
- MUSIC 441 - Instrumental Ensemble

~~6~~ units in

- MUSIC, Arts, or Science option (~~6~~ units)

Performance Route - Guitar [Arts]

[…]

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

One of

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
  OR
- MUSIC 129 - Fundamental Keyboard Skills

6 units in

- MUSIC, Arts, or Science option (6 units)

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 283 - Western Art Music, Ancient-1800
- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble
- MUSIC 441 - Instrumental Ensemble

3 units in

- MUSIC, Arts, or Science option (3 units)

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Last year the Music Department decided on a set of changes across all its undergraduate programs, redefining their foundational requirements. In particular, a brand new and innovative 100-level course (MUSIC 186 Musical Life Today) was created to replace previous mandatory courses for first-year students.

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https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

Performance Route - Piano [Arts]

Regulations

Performance Route Only: Students will be required to present a junior and senior recital before graduation.

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~

~~6~~ units in

- MUSIC, Arts, or Science option (~~6 units~~)

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV

- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble
- MUSIC 441 - Instrumental Ensemble

3 units in

- MUSIC, Arts, or Science or specified non-Arts option (3 units)

Performance Route - Piano [Arts]

Regulations

Performance Route Only: Students will be required to present a junior and senior recital before graduation.

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

9 units in

- MUSIC, Arts, or Science option (9 units)

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 283 - Western Art Music, Ancient-1800
- MUSIC 284 - Western Art Music, 1800-Present

One of

- MUSIC 440 - Choral Ensemble
- MUSIC 441 - Instrumental Ensemble

3 units in

- MUSIC, Arts, or Science or specified non-Arts option (3 units)

~~**3 units in**~~ • ~~MUSIC, Arts, or Science Option (3 units)~~ **~~3~~ units in** • One Language Other than English (6 units) **OR** • MUSIC, Arts, or Science Option (6 units) (see Note 1)	**6 units in** • One Language Other than English (6 units) **OR** • MUSIC, Arts, or Science Option (6 units) (see Note 1)

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

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The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

Performance Route - Strings and Harp [Arts]

Regulations

Performance Route Only: Students will be required to present a junior and senior recital before graduation.

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~
- MUSIC 186 - Musical Life Today

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

~~3~~ units in

- MUSIC, Arts, or Science option (~~3~~ units)

3 units in

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music **OR**
- MUSIC 129 - Fundamental Keyboard Skills

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV

Performance Route - Strings and Harp [Arts]

Regulations

Performance Route Only: Students will be required to present a junior and senior recital before graduation.

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

6 units in

- MUSIC, Arts, or Science option (6 units)

3 units in

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music **OR**
- MUSIC 129 - Fundamental Keyboard Skills

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 283 - Western Art Music, Ancient-1800

• MUSIC 284 - Western Art Music, 1800-Present • MUSIC 441 - Instrumental Ensemble **~~6~~ units in** --- • MUSIC, Arts, or Science option (~~6~~ units)	• MUSIC 284 - Western Art Music, 1800-Present • MUSIC 441 - Instrumental Ensemble **3 units in** --- • MUSIC, Arts, or Science option (3 units)

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca) Fabio Morabito (morabito@ualberta.ca)
Department/Unit Approval Date:	Department of Music, 5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

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The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268&returnto=11331

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language

Performance Route - Wind and Percussion [Arts]

[…]

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today
- ~~MUSIC 283 - Western Art Music, Ancient-1800~~

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

~~3~~ units in

- MUSIC, Arts, or Science option (~~3~~ units)

3 units in

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
  OR
- MUSIC 129 - Fundamental Keyboard Skills

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
-
- MUSIC 284 - Western Art Music, 1800-Present
- MUSIC 441 - Instrumental Ensemble

~~6~~ units in

- MUSIC, Arts, or Science option (~~6~~ units)

Performance Route - Wind and Percussion [Arts]

[…]

Year 1 (33 units)

- 3 units of Junior ENGL
- **OR**
- WRS 101 - Exploring Writing
-
- MUSIC 125 - Applied Music
- MUSIC 151 - Aural and Keyboard Skills I
- MUSIC 155 - Music Theory I
- MUSIC 156 - Music Theory II
- MUSIC 186 - Musical Life Today

One of

- MUSIC 140 - Choral Ensemble
- MUSIC 141 - Instrumental Ensemble

6 units in

- MUSIC, Arts, or Science option (6 units)

3 units in

- MUSIC, Arts, or Science option (3 units) with permission from the Department of Music
  OR
- MUSIC 129 - Fundamental Keyboard Skills

Year 2 (33 units)

- MUSIC 225 - Applied Music
- MUSIC 251 - Aural and Keyboard Skills II
- MUSIC 255 - Music Theory III
- MUSIC 256 - Music Theory IV
- MUSIC 283 - Western Art Music, Ancient-1800
- MUSIC 284 - Western Art Music, 1800-Present
- MUSIC 441 - Instrumental Ensemble

3 units in

- MUSIC, Arts, or Science option (3 units)

UNIVERSITY OF ALBERTA

Calendar Change Form - **Program and Regulations**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	John Tessier (jtessier@ualberta.ca), Stephen Tchir (stchir@ualberta.ca)
Department/Unit Approval Date:	6 April, 2022 (Chair, William H. Street)

Rationale for change (Indicate other consultation groups, departments, units or faculties)

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The Director of Undergraduate Studies, the Undergraduate Advisor, and the Academic Area were all consulted and supported this calendar change.

Preparing the repertoire for the final project recital, the jury repertoire for the two semester juries, and all of the repertoire for the Chamber Music class concurrently, is a great challenge for 4th year BMus students in voice. In year three the recital is only 30 mins as opposed to 60 mins and since it is not juried, repertoire can be used from other course work. This will free up the students time in year 4 to focus on the final project recital. This proposed change was discussed at the performance area committee meeting and approved by that committee.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
# Performance Route - Voice [Arts] ## Regulations Performance Route Only: Students will be required to present a junior and senior recital before graduation. ## Year 1 (33 units) 3 units of Junior ENGL **OR** WRS 101 - Exploring Writing MUSIC 125 - Applied Music MUSIC 151 - Aural and Keyboard Skills I MUSIC 155 - Music Theory I MUSIC 156 - Music Theory II MUSIC 186 - Musical Life Today ~~MUSIC 283 - Western Art Music, Ancient-1800~~ ## One of MUSIC 140 - Choral Ensemble MUSIC 141 - Instrumental Ensemble ## ~~3~~ units in MUSIC, Arts, or Science option ~~(3 units)~~ ## 3 units in MUSIC, Arts, or Science option ~~(3 units)~~ with permission from the Department of Music **OR** MUSIC 129 - Fundamental Keyboard Skills	# Performance Route - Voice [Arts] ## Regulations Performance Route Only: Students will be required to present a junior and senior recital before graduation. ## Year 1 (33 units) 3 units of Junior ENGL **OR** WRS 101 - Exploring Writing MUSIC 125 - Applied Music MUSIC 151 - Aural and Keyboard Skills I MUSIC 155 - Music Theory I MUSIC 156 - Music Theory II MUSIC 186 - Musical Life Today ## One of MUSIC 140 - Choral Ensemble MUSIC 141 - Instrumental Ensemble ## 6 units in MUSIC, Arts, or Science option ## 3 units in MUSIC, Arts, or Science option with permission from the Department of Music **OR** MUSIC 129 - Fundamental Keyboard Skills

Year 2 (33 units)

MUSIC 225 - Applied Music
MUSIC 251 - Aural and Keyboard Skills II
MUSIC 255 - Music Theory III
MUSIC 256 - Music Theory IV

~~MUSIC 284 - Western Art Music, 1800-Present~~
MUSIC 321 - Diction for Singers I
MUSIC 322 - Diction for Singers II
MUSIC 440 - Choral Ensemble

6 units in

- One Language Other than English (6 units) **OR**
- MUSIC, Arts, or Science Option (6 units) (see Note 1)

Notes

1. The Language Other than English (6 units) requirement can be replaced with MUSIC, Arts, or Science Option (6 units) for students who have either:
    a. successfully completed a Language Other than English at the 30-level (or equivalent), or
    b. been required to take an English Language Proficiency test for admission

Year 3 (30 units)

- MUSIC 425 - Applied Music
- MUSIC 435 - Vocal Pedagogy I
- MUSIC 436 - Vocal Pedagogy II
- MUSIC 455 - Music Theory V

One of

Year 2 (33 units)

MUSIC 225 - Applied Music
MUSIC 251 - Aural and Keyboard Skills II
MUSIC 255 - Music Theory III
MUSIC 256 - Music Theory IV
MUSIC 283 - Western Art Music, Ancient-1800

MUSIC 321 - Diction for Singers I
MUSIC 322 - Diction for Singers II
MUSIC 440 - Choral Ensemble

6 units in

One Language Other than English (6 units) **OR**
MUSIC, Arts, or Science Option (6 units) (see Note 1)

Notes

1. The Language Other than English (6 units) requirement can be replaced with MUSIC, Arts, or Science Option (6 units) for students who have either:
    a. successfully completed a Language Other than English at the 30-level (or equivalent), or
    b. been required to take an English Language Proficiency test for admission

Year 3 (30 units)

MUSIC 284 - Western Art Music, 1800-Present
MUSIC 425 - Applied Music
MUSIC 435 - Vocal Pedagogy I
MUSIC 436 - Vocal Pedagogy II
MUSIC 439 - Vocal and Instrumental Chamber Ensemble
MUSIC 455 - Music Theory V

One of

• MUSIC 450 - Analysis Through Performance • MUSIC 451 - Aural and Keyboard Skills III • ~~MUSIC 456~~ • MUSIC 458 - Music Theory Vll • MUSIC 480 - Survey of Contemporary Music and Sonic Arts One of --- • MUSIC 440 - Choral Ensemble • MUSIC 446 - Opera Workshop ~~3 units in~~ --- • ~~MUSIC, Arts, or Science options (3 units)~~ 3 units in --- • Non-MUSIC Arts or Science option ~~(3 units)~~ 3 units in --- • MUSIC Option ~~(3 units)~~ Year 4 (30 units) --- • MUSIC 409 - Vocal Literature I • MUSIC 410 - Vocal Literature II • ~~MUSIC 439 - Vocal and Instrumental Chamber Ensemble~~ • MUSIC 525 - Applied Music One of --- • MUSIC 440 - Choral Ensemble • MUSIC 446 - Opera Workshop One of --- […] 3 units in	MUSIC 450 - Analysis Through Performance MUSIC 451 - Aural and Keyboard Skills III MUSIC 458 - Music Theory Vll MUSIC 480 - Survey of Contemporary Music and Sonic Arts One of --- MUSIC 440 - Choral Ensemble MUSIC 446 - Opera Workshop 3 units in --- Non-MUSIC Arts or Science option 3 units in --- MUSIC Option Year 4 (30 units) --- MUSIC 409 - Vocal Literature I MUSIC 410 - Vocal Literature II MUSIC 525 - Applied Music One of --- MUSIC 440 - Choral Ensemble MUSIC 446 - Opera Workshop One of --- […]

• Non-MUSIC Fine Arts option ~~(3 units)~~ From ART, DES, DRAMA, HADVC, T DES, or WRITE 6 units in • MUSIC, Arts, or Science or specified non-Arts options ~~(6 units)~~	3 units in Non-MUSIC Fine Arts option From: ART, DES, DRAMA, HADVC, T DES, or WRITE 6 units in MUSIC, Arts, or Science or specified non-Arts options **3 Units in** MUSIC Option

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

Package Code: AR UGSP – Fall.2022

This package contains: Undergraduate - Substantive Program Changes

Faculty approval date:

AAC Date: September 20, 2022	AEC: November 10, 2022	AFC: November 24, 2022

Page	Department or Unit	What is Changing
3	Art & Design	HADVC BA Honors
5	Art & Design	HADVC BA Combined Honors

Faculty approval date:

AAC Date: October 4, 2022	AEC: November 10, 2022	AFC: November 24, 2022

Page	Department or Unit	What is Changing
7	Earth and Atmospheric Sciences	BA in Environmental Studies **Item removed and considered with parallel changes from ALES*
14	English and Film Studies	Honors in English - Regulation and Program
19	English and Film Studies	Combined Honors English - Regulation and Program
24	History, Classics and Religion	Honors in Classics - Graduation Requirements
25	History, Classics and Religion	Honors in History - Grad Requirements
26	History, Classics and Religion	Honors in Religious Studies - Grad Requirements
27	Linguistics	Honors in Linguistics - Graduation Requirements
28	Sociology	Honors in Sociology - Graduation Requirements

Faculty approval date:

AAC Date: October 18, 2022	AEC: November 10, 2022	AFC: November 24, 2022

Page	Department or Unit	What is Changing
29	Music	BMus Promotion (all sections)
30	Faculty / USS	Postsecondary AGPA- Readmission and Transfer

Faculty of Arts	**Art & Design**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Elizabeth Boone
Department/Unit Approval Date:	

Rationale for change (Indicate other consultation groups, departments, units or faculties)

The Department would like to better integrate its curriculum by providing students completing the Honors degree in the History of Art, Design, and Visual Culture with the option of using up to 6 units in senior studio classes in Art (ART) and Design (DES). This change will also better prepare students who are interested in Contemporary Art and Research Creation by exposing them to the materials and methods employed in a studio environment today. We are also changing the minimum number of units from 54 to 48, which aligns the HADVC Honors degree requirements with other departments in the Faculty of Arts (such as History, Philosophy, and Sociology). In addition, the language about taking a course outside a student's area of specialization and 500-level courses is being deleted as undergraduate students in HADVC do not declare an area of specialization or take 500-level HADVC courses. Finally, the requirements have been reorganized for clarity. This proposal was approved all faculty teaching in the History of Art, Design, and Visual Culture. It was also presented and approved by Art and Design Council, April 25, 2022.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Honors in History of Art, Design, and Visual Culture [Arts] **[…]** **Program Requirements** Honors in the History of Art, Design, and Visual Culture requires a minimum of ~~54~~ units~~,~~ a maximum of 60 units at the junior and senior levels in HADVC courses ~~including:~~ • HADVC 400 - Theory and Methods in Art, Design and Visual Culture • HADVC 418 - Special Subject, Fourth-Year Honors (Honors Essay) for which preparation will commence in the third year in consultation with the Departmental Advisor.	**Honors in History of Art, Design, and Visual Culture [Arts]** **[…]** **Program Requirements** Honors in the History of Art, Design, and Visual Culture requires a minimum of 48 units to a maximum of 60 units at the junior and senior levels in HADVC courses. **Course Requirements** • HADVC 400 - Theory and Methods in Art, Design and Visual Culture • HADVC 418 - Special Subject, Fourth-Year Honors (Honors Essay) for which preparation will commence in the third year in consultation with the Departmental Advisor.

• A minimum of ~~12~~ units in HADVC seminars at the 400- ~~or 500-~~level~~s~~.	• A minimum of 9 additional units in HADVC seminars at the 400-level • 6 units at the senior level in a Language other than English (normally French, German, Italian, Spanish, Chinese or Japanese).
~~For the Honors program,~~ CLASS 254 and CLASS 255 may be used toward the senior level requirements. [move]	**Note:** • CLASS 254, CLASS 255, and up to 6 units in studio ART or DES classes may be used toward the senior level requirements.
~~The Honors program in the History of Art, Design, and Visual Culture does not have a minor requirement; however~~,[move] 6 units at the senior level in a Language other than English (normally French, German, Italian, Spanish, Chinese or Japanese) ~~is required~~. Consent of Departmental Advisor is required in choice of Language other than English.	• Consent of Departmental Advisor is required in choice of Language other than English.

Faculty of Arts	**Art & Design**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Elizabeth Boone
Department/Unit Approval Date:	

Rationale for change (Indicate other consultation groups, departments, units or faculties)

The Department would like to better integrate its curriculum by providing students completing the Honors degree in the History of Art, Design, and Visual Culture with the option of using up to 6 units in senior studio classes in Art (ART) and Design (DES). This change will also better prepare students who are interested in Contemporary Art and Research Creation by exposing them to the materials and methods employed in a studio environment today. We are also changing the minimum number of units from 54 to 48, which aligns the HADVC Honors degree requirements with other departments in the Faculty of Arts (such as History, Philosophy, and Sociology). In addition, the language about taking a course outside a student's area of specialization and 500-level courses is being deleted as undergraduate students in HADVC do not declare an area of specialization or take 500-level HADVC courses. Finally, the requirements have been reorganized for clarity. This proposal was approved all faculty teaching in the History of Art, Design, and Visual Culture. It was also presented and approved by Art and Design Council, April 25, 2022.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Combined Honors in History of Art, Design, and Visual Culture **[…]** **Course Requirements** • 15 units at the 200-level ~~and~~ 3 units at the 300-level ~~in HADVC, including at least 3 units in an area outside the student's area of specialization~~. [move] For the Combined Honors program, CLASS 254 ~~and~~ CLASS 255 may be used toward the senior level requirements. • ,[move] HADVC 418 (6 units) Honors Essay is normally required. However, with the Advisor's approval, this may be replaced with 6 units at the 400-~~or 500-~~level in HADVC if the student will be completing an Honors Essay in the other discipline. With special permission, a Combined Honors Essay may also be allowed in lieu of	**Combined Honors in History of Art, Design, and Visual Culture** **[…]** **Course Requirements** • 15 units in HADVC at the 200-level • 3 units in HADVC at the 300-level • 3 units in HADVC at the 400-level • HADVC 418 - Honors Essay Notes: • For the Combined Honors program, CLASS 254, CLASS 255, and up to 6 units in studio ART or DES classes may be used toward the senior level requirements. • HADVC 418 (6 units) is normally required. However, with the Advisor's approval, this may

HADVC 418 [see Bachelor of Arts Honors]. Consult the Honors Advisor for further information. • ~~3 units at the 400- or 500-level in HADVC.~~ • ~~A further 9 units in HADVC, including a maximum of 6 units at the junior level.~~	be replaced with 6 units at the 400-level in HADVC if the student will be completing an Honors Essay in the other discipline. With special permission, a Combined Honors Essay may also be allowed in lieu of HADVC 418 [see Bachelor of Arts Honors]. Consult the Honors Advisor for further information

UNIVERSITY OF ALBERTA

For Office Use: Faculty Approval Date

Calendar Change Form - **Program and Regulations**

Faculty of Arts	**English and Film Studies**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☐ No
Contact Person:	Eddy Kent, Director of Ugrad Programs, EFS
Department/Unit Approval Date:	DC, 29 September 2022

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

The ENGL BA Honors requires revision for several reasons:

- To align better with other Honors programs in the Faculty of Arts
- To align better with entrance requirements for MA programs in Canada
- To reflect changes in the discipline
- To continue to the work of decolonizing our curriculum

Accordingly, on September 29, Department Council approved the following changes:

Minor Changes

- Adding a “General Information” section (to align with other Honors program descriptions in the Calendar)
- Adding a note to confirm that, like the Major, Honors English requires 6 units of Junior English (or 3 units + WRS101 or 102)
- Removing the duplication in points 4 and 5 of the original program requirements. Both points speak to the need for ENGL 498, whereas only one is needed.
- Moving the language about WRITE course out of the “Course Requirements” section and into the “General Information” section.

Key changes

1. Reducing the required minimum number of units from 54 to 48
2. Eliminating the requirement for 6 units in a Senior Level language other than English
3. Reorganizing program areas and, accordingly, the minimum required units in each area

Rationale

1. Align English with other Honors programs in the Faculty of Arts. The reduction to the minimum allows students greater intellectual independence and makes possible more cross-disciplinary exploration.
2. The requirement for a Senior Level language other than English is increasingly vestigial. There are presently no MA programs in Canada where a Senior Language other than English is an entrance requirement. Moreover, aside from UAlberta, the only other Honors English program in Canada that still has a Senior LOE requirement is at the University of Victoria.
3. The reorganization of our program areas (and corresponding requirements) is partially a response to changes in the discipline, and partially a response to the ongoing need to decolonize our curriculum. The range of options in the proposed category of courses on Language, Genre, Form, and Medium shores up the breadth of the Honours program while allowing students to receive credit for courses that accord with particular interests. The proposed changes in other areas facilitate an expanded vision of breadth by requiring coursework in Indigenous and postcolonial literatures along with political approaches to literary analysis.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy

Current: ~~Removed language~~ (include name of program)	**Proposed:** New language
Bachelor of Arts Honors **Honors in English [Arts]** **General Information** Students planning to ~~enter~~ the Honors program should consult BA Honors ~~of the Calendar~~ for admission requirements. ~~The normal requirements of the program follow. Variations in the program (including directed reading courses) need the permission of the Undergraduate Programs Advisor.~~	**Bachelor of Arts Honors** **Honors in English [Arts]** **General Information** Students planning to apply for admission to the Honors program should consult BA Honors for admission requirements and Faculty regulations concerning the Honors program.
Program Requirements ~~In the second, third, and fourth years of the program a minimum of 54 units and a maximum of 72 units in senior English is required.~~ ~~No course can be used to meet more than one area requirement across and within the areas listed in (1), (2) and (3).~~	**Program Requirements** Honors in English requires a minimum of 48 units and a maximum of 72 units in senior ENGL, including at least 15 units at the 200-level; 15 units at the 300-level; and 9 units at the 400-level, including ENGL 498, the Honors Essay. WRITE courses will count toward the ENGL program requirements. See Cross-Listed Courses for more information.

Course Requirements

1. ~~15 units required from the following four areas, with 9 units taken at the 200-level, and with at least 3 units taken in each listed area:~~
    a. ~~Language, Writing~~
    b. ~~Reading Histories~~
    c. ~~Textualities~~
    d. ~~Reading Politics~~
2. ~~18 units required from the following five areas, with at least 3 units from each area. No more than 3 units from Area (e) can satisfy program requirements.~~
    a. ~~Old and Middle English Literature and Culture~~
    b. ~~Early Modern Literature and Culture~~
    c. ~~Restoration and Eighteenth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures)~~
    d. ~~Nineteenth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures)~~
    e. ~~Twentieth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures)~~

    ~~**Note:** A course that spans more than one of these time periods may be used to fulfill only one of the above historical requirements. A course thus used to fulfill an Area 2 historical requirement must be predominantly focused on one time period, while it may include writing from more than one.~~
3. ~~12 units required from three of the following four areas, with at least 3 units taken in Canadian Literature and Culture.~~
    a. ~~Canadian Literature and Culture~~
    b. ~~Postcolonial Literature and Culture~~
    c. ~~American Literature and Culture~~
    d. ~~Aboriginal/Indigenous Literature and Culture~~
4. ~~All Honors English students must take a minimum of 9 units in English at the 400-level, including ENGL 498~~.

5. ENGL 498, Honors Essay, ~~required in either~~

Course Requirements

- 6 units of junior English or 3 units of junior ENGL plus WRS 101 (ENGL 150 recommended)

Area Requirements

Courses will only be applied once to meet the Area Requirements listed below.

- 9 units from the Core Area

ENGL 206
ENGL 207
ENGL 217

- 6 units from the area of Language, Genre, Form, and Medium:

ENGL 212
ENGL 300
ENGL 301
ENGL 302
ENGL 303
ENGL 306
ENGL 312
ENGL 314
ENGL 315
ENGL 363
ENGL 369
ENGL 385
ENGL 387
ENGL 388
ENGL 395
ENGL 397
ENGL 398

3 units from each of the following six areas (total 18 units)

[Make expandable lists]

1. National and Transnational Literatures in English
ENGL 250
ENGL 312
ENGL 314
ENGL 315
ENGL 316

term of the final year. Students will initiate discussion of their essays with the Advisor in Winter Term of Year 3.

6. **WRITE (Creative Writing) Courses**: WRITE and approved cross-listed courses are considered English courses and therefore are included in the minimum and maximum number of course weights permitted for credit in the program. See Cross-Listed Courses for regulations concerning cross-listed courses.
7. **Language Requirements:** Students must successfully complete 6 units in a senior-level Language other than English (or equivalent).

ENGL 339
ENGL 352
ENGL 357
ENGL 358
ENGL 359
ENGL 360
ENGL 361
ENGL 362
ENGL 364
ENGL 366
ENGL 372
ENGL 373
ENGL 374
ENGL 375
ENGL 376
ENGL 377
ENGL 378
ENGL 380

2. Indigenous Literatures and Cultures
   - ENGL 216
   - ENGL 307
   - ENGL 308
   - ENGL 309

3. Postcolonial and Global Literature
   - ENGL 216
   - ENGL 223
   - ENGL 307
   - ENGL 308
   - ENGL 309
   - ENGL 310
   - ENGL 311
   - ENGL 312
   - ENGL 314
   - ENGL 315
   - ENGL 316
   - ENGL 373

4. Literature, Politics, and Culture
   - ENGL 220
   - ENGL 221
   - ENGL 222
   - ENGL 223
   - ENGL 391
   - ENGL 392
   - ENGL 393
   - ENGL 394
   - ENGL 396

5. Literature, History and Culture (pre-1700)
   - ENGL 325
   - ENGL 327

	ENGL 336 ENGL 337 ENGL 339 ENGL 340 6. Literature, History and Culture (1700-1900) ENGL 341 ENGL 343 ENGL 350 ENGL 352 ENGL 353 ENGL 357 ENGL 358 **Honors Essay (3 units)**
Promotion Requirements Promotion from year to year requires a minimum GPA of at least 3.0 and an average of at least 3.3 in all English courses in the Fall/Winter. **Graduation Requirement** Graduation with Honors in English requires a minimum GPA of at least 3.0 in the last 30 units and a minimum average of 3.3 in all English courses completed in the last 90 units of the program. Graduation with First Class Honors requires a GPA of at least 3.7 in all senior level English courses, and an overall GPA of at least 3.5 on the last 30 units completed.	• ENGL 498 Students must initiate discussion of their essays with the Advisor in Winter Term of Year 3 and must enroll in ENGL 498 in either term of their final year. **Promotion Requirements** Promotion from year to year requires a minimum GPA of at least 3.0 and an average of at least 3.3 in all English courses in the Fall/Winter. **Graduation Requirements** Graduation with Honors in English requires a minimum GPA of at least 3.0 in the last 30 units and a minimum average of 3.3 in all English courses completed in the last 90 units of the program. Graduation with First Class Honors requires a GPA of at least 3.7 in all senior level English courses, and an overall GPA of at least 3.5 on the last 30 units completed.

UNIVERSITY OF ALBERTA

For Office Use: Faculty Approval Date

Calendar Change Form - **Program and Regulations**

Faculty of Arts	**English and Film Studies**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☐ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☐ No
Contact Person:	Eddy Kent, Director of Ugrad Programs, EFS
Department/Unit Approval Date:	DC, 29 September 2022

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

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- To align better with other Honors programs in the Faculty of Arts
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- To reflect changes in the discipline
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Accordingly, on September 29, Department Council approved the following changes:

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- Adding a “General Information” section (to align with other Honors program descriptions in the Calendar)
- Adding a note to confirm that, like the Major, Honors English requires 6 units of Junior English (or 3 units + WRS101 or 102)
- Removing the duplication in points 4 and 5 of the original program requirements. Both points speak to the need for ENGL 498, whereas only one is needed.
- Moving the language about WRITE course out of the “Course Requirements” section and into the “General Information” section.

Key changes

1. Reducing the required minimum number of units from 54 to 48
2. Eliminating the requirement for 6 units in a Senior Level language other than English
3. Reorganizing program areas and, accordingly, the minimum required units in each area

Rationale

1. Align English with other Honors programs in the Faculty of Arts. The reduction to the minimum allows students greater intellectual independence and makes possible more cross-disciplinary exploration.
2. The requirement for a Senior Level language other than English is increasingly vestigial. There are presently no MA programs in Canada where a Senior Language other than English is an entrance requirement. Moreover, aside from UAlberta, the only other Honors English program in Canada that still has a Senior LOE requirement is at the University of Victoria.
3. The reorganization of our program areas (and corresponding requirements) is partially a response to changes in the discipline, and partially a response to the ongoing need to decolonize our curriculum. The range of options in the proposed category of courses on Language, Genre, Form, and Medium shores up the breadth of the Honours program while allowing students to receive credit for courses that accord with particular interests. The proposed changes in other areas facilitate an expanded vision of breadth by requiring coursework in Indigenous and postcolonial literatures along with political approaches to literary analysis.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy

Current: ~~Removed language~~ (include name of program)	**Proposed:** New language
Bachelor of Arts Honors **Combined Honors in English [Arts]** **General Information** Students may pursue a Combined Honors program in English and another discipline. However, students should be aware that a Combined Honors program may not qualify them for admission to a graduate program in English. **Program Requirements** The common requirements are the same as for other Honors programs (see Bachelor of Arts Honors). A Combined Honors program in English and another discipline requires a minimum of 36 units in ~~English~~ at the 200-level or above, including 6 units at the 400-level and a minimum of 36 units in the other discipline. ~~No course can be used to meet more than one area requirement across and within the areas listed in (1), (2) and (3).~~ **Course Requirements**	**Bachelor of Arts Honors** **Combined Honors in English [Arts]** **General Information** Students may pursue a Combined Honors program in English and another discipline. However, students should be aware that a Combined Honors program may not qualify them for admission to a graduate program in English. Students planning to apply for admission to the Honors program should consult BA Honors for admission requirements and Faculty regulations concerning the Honors program **Program Requirements** The common requirements are the same as for other Honors programs (see Bachelor of Arts Honors). A Combined Honors program in English and another discipline requires a minimum of 36 units in ENGL at the 200-level or above, including 6 units at the 400-level and a minimum of 36 units in the other discipline. WRITE courses will count toward the ENGL program requirements. See Cross-Listed Courses for more information. No course can be used to meet more than one area requirement across and within the areas listed below. **Course Requirements** • 6 units of junior English or 3 units of junior ENGL plus WRS 101 (ENGL 150 recommended)

1. ~~**9 units required** from three of the following four areas, with 6 units taken at the 200-level.~~
    a. ~~Language, Writing~~
    b. ~~Reading Histories~~
    c. ~~Textualities~~
    d. ~~Reading Politics~~
2. ~~**12 units required** from four of the following five areas:~~
    a. ~~Old and Middle English Literature and Culture~~
    b. ~~Early Modern Literature and Culture~~
    c. ~~Restoration and Eighteenth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures)~~
    d. ~~Nineteenth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures)~~
    e. ~~Twentieth-Century Literature and Culture (including American, British, Canadian, and World Anglophone literatures and cultures~~

    ~~**Note:** A course that spans more than one of these time periods may be used to fulfill only one of the above historical requirements. A course thus used to fulfill an Area 2 historical requirement must be predominantly focused on one time period, while it may include writing from more than one.~~
3. ~~**12 units required** from three of the following four areas, with at least 3 units taken in Canadian Literature and Culture~~
    a. ~~Canadian Literature and Culture~~
    b. ~~Postcolonial Literature and Culture~~
    c. ~~American Literature and Culture~~
    d. ~~Aboriginal/Indigenous Literature and Culture~~
4. ENGL 498, ~~Honors Essay, required in either term of the final year. Students will initiate discussion of their essays with the Advisor in Winter Term of Year 3.~~ With the Advisor's approval, the requirement can be waived if

Area Requirements

Courses will only be applied once to meet the Area Requirements listed below.

- 9 units from the Core Area

ENGL 206
ENGL 207
ENGL 217

- 6 units from the area of Language, Genre, Form, and Medium:

ENGL 212
ENGL 300
ENGL 301
ENGL 302
ENGL 303
ENGL 306
ENGL 312
ENGL 314
ENGL 315
ENGL 363
ENGL 369
ENGL 385
ENGL 387
ENGL 388
ENGL 395
ENGL 397
ENGL 398

3 units from each of the following six areas (total 18 units)

[Make expandable lists]

1. National and Transnational Literatures in English
ENGL 250
ENGL 312
ENGL 314
ENGL 315
ENGL 316
ENGL 339
ENGL 352
ENGL 357
ENGL 358

the student will be completing an Honors Essay in the other discipline. With special permission, INT D 520, Combined Honors Essay, may replace requirement.	ENGL 359 ENGL 360 ENGL 361 ENGL 362 ENGL 364 ENGL 366 ENGL 372 ENGL 373 ENGL 374 ENGL 375 ENGL 376 ENGL 377 ENGL 378 ENGL 380 2. Indigenous Literatures and Cultures ENGL 216 ENGL 307 ENGL 308 ENGL 309 3. Postcolonial and Global Literature ENGL 216 ENGL 223 ENGL 307 ENGL 308 ENGL 309 ENGL 310 ENGL 311 ENGL 312 ENGL 314 ENGL 315 ENGL 316 ENGL 373 4. Literature, Politics, and Culture ENGL 220 ENGL 221 ENGL 222 ENGL 223 ENGL 391 ENGL 392 ENGL 393 ENGL 394 ENGL 396 5. Literature, History and Culture (pre-1700) ENGL 325 ENGL 327

	ENGL 336 ENGL 337 ENGL 339 ENGL 340 6. Literature, History and Culture (1700-1900) ENGL 341 ENGL 343 ENGL 350 ENGL 352 ENGL 353 ENGL 357 ENGL 358 **Honors Essay (3 units)** • ENGL 498, Students must initiate discussion of their essays with the Advisor in Winter Term of Year 3 and must enroll in ENGL 498 in either term of their final year. With the Advisor's approval, the requirement can be waived if the student will be completing an Honors Essay in the other discipline. With special permission, INT D 520, Combined Honors Essay, may replace requirement.
Promotion and Graduation Requirements	**Promotion and Graduation Requirements**
In the Combined Honors program, students must meet the promotion and graduation standards of each department. Requirements in English are outlined in Honors in English.	In the Combined Honors program, students must meet the promotion and graduation standards of each department. Requirements in English are outlined in Honors in English.

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: History, Classics and Religion

Change: Undergraduate Major Program Change

Rationale: For the sake of equity and clear communication with students the Faculty of Arts would like to use the same method for all Honors students of calculating graduation with Honors and graduation with First-Class Honors. The change to “courses applied to the major” is consistent with the Faculty’s terminology. It means that whatever courses the Department has defined as approved courses in the major will be included.
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Honors in Classics … Graduation Requirements Graduation with Honors in Classical Studies requires a graduation average of at least 3.0 with an average of at least 3.3 ~~i~~n all CLASS and GREEK and LATIN courses. Graduation with First Class Honors requires an average of at least 3.7 on all CLASS and GREEK and LATIN courses taken in the ~~last~~ two years and an average of 3.5 or better on all courses in the two final years (last 60 units).	**Honors in Classics** … Graduation Requirements Graduation with Honors in Classical Studies requires a graduation average of at least 3.0 on the last 60 units completed at the University of Alberta with an average of at least 3.3 on all CLASS and GREEK and LATIN courses. Graduation with First Class Honors requires an average of at least 3.7 on all CLASS and GREEK and LATIN courses taken in the two final years and an average of at least 3.5 ~~or better~~ on all courses in the two final years (last 60 units).

Department Contact: Jaymie Heilman	Department Council Approval Date: April 8, 2022
Chair or Designate: Jaymie Heilman	Signature: Jaymie Heilman

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: History, Classics and Religion

Change: Undergraduate Major Program Change

Rationale: For the sake of equity and clear communication with students the Faculty of Arts would like to use the same method for all Honors students of calculating graduation with Honors and graduation with First-Class Honors. The change to "courses applied to the major" is consistent with the Faculty's terminology. It means that whatever courses the Department has defined as approved courses in the major will be included.
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Honors in History … Graduation Requirements Graduation with Honors in History requires a graduation average of at least 3.~~3~~ with an average of at least 3.3 ~~i~~n all ~~History~~ courses. Graduation with First Class Honors requires an average of at least 3.7 on all ~~History~~ courses taken in the ~~last~~ two years and an average of at least 3.5 ~~or better~~ on all courses in the two final years (last 60 units).	**Honors in History** … Graduation Requirements Graduation with Honors in History requires a graduation average of at least 3.0 on the last 60 units completed at the University of Alberta with an average of at least 3.3 on all courses applied to the major. Graduation with First Class Honors requires an average of at least 3.7 on all courses applied to the major taken in the two final years and an average of at least 3.5 on all courses in the two final years (last 60 units).

Department Contact: Jaymie Heilman	Department Council Approval Date: April 8, 2022
Chair or Designate: Jaymie Heilman	Signature: Jaymie Heilman

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: History, Classics and Religion

Change: Undergraduate Major Program Change

Rationale: For the sake of equity and clear communication with students the Faculty of Arts would like to use the same method for all Honors students of calculating graduation with Honors and graduation with First-Class Honors. The change to “courses applied to the major” is consistent with the Faculty’s terminology. It means that whatever courses the Department has defined as approved courses in the major will be included.
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Honors in Religious Studies … Graduation Requirements Graduation with Honors in Religious Studies requires a ~~program~~ average of at least 3.~~3~~ and an average of at least 3.3 ~~i~~n all ~~RELIG and approved cross-listed~~ courses. Graduation with First-Class Honors requires an average of at least 3.7 ~~i~~n all ~~senior-level RELIG and approved cross-listed~~ courses and an average of at least 3.5 in the last ~~3~~0 units ~~completed~~.	**Honors in Religious Studies** … Graduation Requirements Graduation with Honors in Religious Studies requires a graduation average of at least 3.0 on the last 60 units completed at the University of Alberta and an average of at least 3.3 on all courses applied to the major. Graduation with First-Class Honors requires an average of at least 3.7 on all courses applied to the major taken in the two final years and an average of at least 3.5 on all courses in the two final years (last 60 units).

Department Contact: Jaymie Heilman	Department Council Approval Date: April 8, 2022
Chair or Designate: Jaymie Heilman	Signature: Jaymie Heilman

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: Linguistics

Change: Undergraduate Major Program Change

Rationale: For the sake of equity and clear communication with students the Faculty of Arts would like to use the same method for all Honors students of calculating graduation with Honors and graduation with First-Class Honors. The change from "Linguistics courses" to "courses applied to the major" is consistent with the Faculty's terminology. It also allows the Department flexibility to include courses without the LING course designator if the student's advisor wants to request a program exception (for example, to have a course in Psychology or Anthropology as part of an individual student's program).
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260&returnto=11331

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Graduation Requirements Graduation with Honors in Linguistics requires a graduation average of at least 3.0 with an average of at least 3.3 ~~i~~n all ~~Linguistics~~ courses. Graduation with First Class Honors requires an average of at least 3.7 ~~i~~n all ~~senior-level Linguistics~~ courses and an average of at least 3.5 ~~or better~~ on all courses in the final year ~~(~~last ~~3~~0 units~~)~~.	Graduation Requirements Graduation with Honors in Linguistics requires a graduation average of at least 3.0 with an average of at least 3.3 on all courses applied to the major completed at the University of Alberta. Graduation with First Class Honors requires an average of at least 3.7 on all courses in the two final years in the major and an average of at least 3.5 on all courses in the two final years. The two final years shall be defined as the last 60 units.

Department Contact:	Department Council Approval Date:
Chair or Designate:	Signature:

UNIVERSITY OF ALBERTA
FACULTY OF ARTS

CALENDAR CHANGE REQUEST FORM

Submission Deadlines: – 09.21.21, 10.05.21, 10.21.21, 02.01.22, 03.29.22

Department: Sociology

Change: Undergraduate Major Program Change

Rationale: For the sake of equity and clear communication with students, the Faculty of Arts would like to use the same method for all Honors students of calculating graduation with Honors and graduation with First-Class Honors. The change to “courses applied to the major” is consistent with the Faculty’s terminology. It means that whatever courses the Department has defined as approved courses in the major will be included. This change has been approved by the Department’s Undergraduate Teaching Committee (UTC) and by Department Council.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42260&returnto=11331

Calendar Copy:

Current: ~~Strike through and highlight~~ deletions	**Proposed:** Underline and highlight additions
Honors in Sociology … Graduation Requirements Graduation with Honors in Sociology requires a graduation average of at least 3.0 with an average of at least 3.3 ~~in~~ all ~~Sociology~~ courses. Graduation with First Class Honors requires an average of at least 3.7 ~~in~~ all ~~senior Sociology~~ courses and 3.5 ~~or better~~ on all courses in the final year (last ~~3~~0 units ~~completed~~).	**Honors in Sociology** … Graduation Requirements Graduation with Honors in Sociology requires a graduation average of at least 3.0 on the last 60 units completed at the University of Alberta with an average of at least 3.3 on all courses applied to the major. Graduation with First Class Honors requires an average of at least 3.7 on all courses applied to the major taken in the two final years and an average of at least 3.5 on all courses in the two final years (last 60 units).

Department Contact: Alison Dunwoody	Department Council Approval Date: May 5, 2022
Chair or Designate: Alison Dunwoody	Signature:

Email a signed PDF and an editable WORD version to artscalendar@ualberta.ca
Contact Lindsay Dobson at the same email address if you need any assistance

Faculty of Arts	**Music**
Level of change	☒ Undergraduate ☐ Graduate
Type of Change	☒ Program ☒ Regulation
Are there corresponding course changes?	☐ Yes ☒ No
Additional Documentation Attached	☐ Yes ☒ No
Contact Person:	Stephen Tchir (stchir@ualberta.ca)
Department/Unit Approval Date:	5 October 2022

Rationale for change (Indicate other consultation groups, departments, units or faculties)

- This change was discussed and approved by both the Academic Area Committee and Undergraduate Committee before receiving the final approval of Department Council. The proposed change introduces a slightly higher level of academic rigor/performance standard specifically to the Performance Route of the Bachelor of Music, a route that should be designated for the highest performing students in the BMus.

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42268

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Bachelor of Music Promotion: All Routes 1. To be eligible to continue, students will ~~normally~~ need a minimum GPA of 2.3 each Fall/Winter. ~~2. Successful completion of the program requirements includes a cumulative grade point average of 2.3 on all courses completed in the program.~~ ~~3.~~ Students in all routes are normally required to complete 33 units during Fall/Winter of the first and second years, and 30 units during the third and fourth years. A reduced course load to 24 units does not require departmental approval ~~beyond the normal means of signing a withdrawal form~~, but a course load of less than 24 units requires Faculty approval based on departmental recommendation. ~~4.~~ Students who fail to meet the requirements for promotion as outlined in (1) above will be required to withdraw from the BMus program. Such students may transfer to another program in the Faculty of Arts or in another Faculty if the entrance and promotion requirements for such a program are met. After transfer, all requirements for the new program must be met.	**Bachelor of Music** Promotion: All Routes 1. To be eligible to continue, students will need a minimum GPA of 2.3 each Fall/Winter. 2. Students in all routes are normally required to complete 33 units during Fall/Winter of the first and second years, and 30 units during the third and fourth years. A reduced course load to 24 units does not require departmental approval, but a course load of less than 24 units requires Faculty approval based on departmental recommendation. 3. Students who fail to meet the requirements for promotion as outlined in (1) above will be required to withdraw from the BMus program. Such students may transfer to another program in the Faculty of Arts or in another Faculty if the entrance and promotion requirements for such a program are met. After transfer, all requirements for the new program must be met.

~~5.~~ Students who fail to meet the fourth-year requirements in the program will be permitted to fulfil those requirements only with the approval of the Dean of Arts on Departmental recommendation. Otherwise, students must withdraw from the program and, if so desired, transfer to another program in the Faculty of Arts for which they are able to meet entrance and promotion requirements.

~~6.~~ A BMus program may be interrupted only with Departmental consent, and continuation will be subject to any conditions, including reauditioning and new program requirements, that may be specified by the Department.

Residence Requirement

1. Students proceeding toward the BMus degree (General, Composition and Sonic Arts, and Performance) must normally have credit in at least 63 units offered by the University of Alberta.
2. The final year of the program will normally be taken in one regular academic year at the University of Alberta. The Department may recommend to the Associate Dean (~~Student Programs~~) exemption from this regulation.

Graduation Requirements: All Routes

1. To qualify for the Bachelor of Music degree, students must ~~successfully complete relevant curriculum requirements; meet the promotion, final year and~~ residence requirements; and receive Departmental recommendation.

2. Degrees With Distinction shall be awarded to students who achieve a grade point average of 3.5 or more on all the units of course weight credited to the program and on all the units of course weight in Music. Students who have taken part of their program at another university may be granted a degree “With Distinction” at the discretion of the Faculty.

4. Students who fail to meet the fourth-year requirements in the program will be permitted to fulfil those requirements only with the approval of the Dean of Arts on Departmental recommendation. Otherwise, students must withdraw from the program and, if so desired, transfer to another program in the Faculty of Arts for which they are able to meet entrance and promotion requirements.

5. A BMus program may be interrupted only with Departmental consent, and continuation will be subject to any conditions, including reauditioning and new program requirements, that may be specified by the Department.

Additional Promotion Requirements: Performance Routes

1. To continue in any performance route, students will need a minimum grade of A- in MUSIC 425. If this grade is not met, students will be moved to the General Route, assuming all other promotion requirements outlined above are met.

Residence Requirement

1. Students proceeding toward the BMus degree (General, Composition and Sonic Arts, and Performance) must normally have credit in at least 63 units offered by the University of Alberta.
2. The final year of the program will normally be taken in one regular academic year at the University of Alberta. The Department may recommend to the Associate Dean (Undergraduate) exemption from this regulation.

Graduation Requirements: All Routes

1. To qualify for the Bachelor of Music degree, students must successfully complete relevant curriculum requirements with a cumulative grade point average of 2.3 on all courses completed in the program; residence requirements; and receive Departmental recommendation.

2. Degrees With Distinction shall be awarded to students who achieve a grade point average of 3.5 or more on all the units of course weight credited to the program and on all the units of course weight in Music. Students who have taken part of their program at another university may be granted a degree “With Distinction” at the discretion of the Faculty.

	Additional Graduation Requirements: Performance Routes 1. To qualify for the Bachelor of Music degree in any Performance Route, students must present a minimum grade of A- in MUSIC 525. If a student does not achieve this grade, they will be considered for graduation from the General Route, assuming all other graduation requirements outlined above are met.

Faculty of Arts	**Faculty Office**
Level of change	X Undergraduate ☐ Graduate
Type of Change	☐ Program X Regulation
Are there corresponding course changes?	☐ Yes X No
Additional Documentation Attached	☐ Yes ☐ No
Contact Person:	Kristy Wuetherick/Rebecca Nagel
Department/Unit Approval Date: Faculty of Arts	n/a

Rationale for change (Indicate other consultation groups, departments, units or faculties)

Primary rationale for change is to align our admission GPA calculations with the institutional standards to be more consistent across programs.

https://calendar.ualberta.ca/content.php?catoid=36&navoid=11294#postsecondary-applicants

Calendar Copy

Current: ~~Removed language~~ (Include name of program)	**Proposed:** New language
Faculty of Arts Admission Requirements […] **Postsecondary Applicants** **Readmission and Transfer** These regulations are for applicants with previous postsecondary education who want to apply for readmission to the Faculty after an absence, or to change programs within Arts, as well as those who wish to transfer from other Faculties and other postsecondary institutions. ● ~~Applicants to programs except BA Environmental Studies and the BA major in Planning who do not present either the high school requirements or the required matriculation average:~~ ○ ~~may be considered for admission if they successfully complete transferable course work, at an accredited postsecondary institution as follows:~~ ■ ~~12-15 units of course weight of coursework transferable to the~~	Faculty of Arts Admission Requirements […] **Postsecondary Applicants** **Readmission and Transfer** These regulations are for applicants with previous postsecondary education who want to apply for readmission to the Faculty after an absence, or to change programs within Arts, as well as those who wish to transfer from other Faculties and other postsecondary institutions. 1. **Applicants who have successfully completed 24 units of course weight or more** transferable to the University of Alberta may be considered for admission or readmission on the basis of their postsecondary AGPA and any other admission requirements applicable to the program that they are seeking (e.g. high school course prerequisites, ELP, artistic requirements, etc). 2. **Applicants who have successfully completed more than 6 units and less than 24 units of**

~~Faculty of Arts with an average of 3.0 or higher.~~

- ~~18-21 units of course weight of coursework transferable to the Faculty of Arts with an average of 2.7 or higher. Or,~~
- ~~24 units of course weight or more of coursework transferable to the Faculty of Arts with a competitive average for the appropriate program. Or,~~
  - ~~This work is accepted in place of matriculation subject requirements, except for English Language Arts 30-1 (or equivalent), which is required for all applicants.~~
  - ~~This coursework may not include any courses equivalent to ones previously passed at this or any other institution. For a course to be considered transferable from another postsecondary institution a minimum final grade of C- is required.~~

- ~~Postsecondary applicants to the BA major in Planning and the BA Environmental Studies programs must meet specific high school course requirements as outlined in BA and Bachelor of Arts in Environmental Studies in order to meet prerequisite requirements for required courses in the program. All requirements as outlined in BA and Bachelor of Arts in Environmental Studies for the BA major in Planning and the BA Environmental Studies programs must be met.~~
- ~~Postsecondary applicants to the BA major in Economics must present an AGPA of at least 2.3 on all courses transferable to the Faculty of Arts.~~

~~Students may apply for admission or readmission to the BA program in the Faculty if they have a~~

course weight transferable to the University of Alberta may be considered for admission on the basis of both their high school average on the five required courses (or NMA average if applicable) and their postsecondary AGPA. In order to be considered, both the high school average and the postsecondary AGPA must meet the competitive averages required for the program as well as any other admission requirements applicable to the program that they are seeking.

3. **Applicants with 6 units or less** of transferable postsecondary work may be considered for admission using only their high school average on the five required courses (or NMA average if applicable) and any other admission requirements applicable to the program that they are seeking.

NOTES:

1. Minimum AGPA requirements vary between programs, and presenting the minimum AGPA does not guarantee admission. A higher competitive GPA may also be required.
2. These requirements are only for students who have not previously been required to withdraw (or the equivalent based on the standards of the Faculty of Arts) from any postsecondary institution. See below for admission/readmission requirements for applicants who have previously been required to withdraw.
3. For students where block credit agreements have been approved, AGPA calculations may vary from those indicated above.

~~competitive AGPA (minimum 2.0) and meet all other admission requirements. Applicants should note, however, that presentation of the minimum requirements does not guarantee admission. Some programs and BA majors require minimum averages greater than 2.0. Refer to specific program requirements.~~	

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**Economics**
Level of change (choose one only)	☐ Undergraduate ☐ Graduate
Contact Person:	Chelsi Hudson
Department/Unit Approval Date:	2022-09-27

Rationale for change (Indicate other consultation groups, departments, units or faculties)

- Minor change to course description to allow flexibility in the future.
- Recent changes in FGSR policy prevents students from being granted advance standing for courses previously accounted for in a degree program. FGSR policy also states that "students are required to fulfil the academic unit's doctoral program requirements as approved by the Faculty of Graduate Studies and Research Council and as stated in the academic unit's graduate program requirements; Taken together, a course taken for credit in our MA program cannot also count for credit in a PhD program and we cannot grant a PhD to a student who does not have credit (during their PhD) in the required PhD courses. Econ 503, 581, 598, and 599 are required for both our MA and PhD students. Students with credit in these courses from their MA will now have to replace each of them with another graduate-level Economics elective. Such students would take 13 graduate-level Economics electives over their two degrees, many of which would be irrelevant to the student's interests and research.
    - We are introducing two Independent Study courses (one 6 credit and one 3 credit) to provide an opportunity for students that completed their MA in our department to conduct independent study under the supervision of a faculty member in their second year rather than taking extra electives. Enrollment in these courses requires department approval.
- ECON 906 cannot be repeated due to the structure of the program.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
ECON 594 Economic Data Analysis II Course Career Graduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department Economics Typically Offered either term Description	**ECON 594** Economic Data Analysis II Course Career Graduate Units 3 Approved Hours 3-0-0 Fee index 6 Faculty Arts Department Economics Typically Offered either term Description

Computer programming for the statistical analysis of data in economics ~~with focus on SAS, R, and Python~~.	Computer programming for the statistical analysis and econometric modelling of data in economics. The statistical programs introduced and used in the course include SAS, R, Python or similar computer programming languages. **ECON 903** Independent Study I Course Career Graduate Units 3 Approved Hours Variable Fee index 6 Faculty Arts Department Economics Typically Offered either term Description Individual study under the supervision of a faculty member. **ECON 906** Independent Study II Course Career Graduate Units 6 Approved Hours Variable Fee index 12 Faculty Arts Department Economics Typically Offered either term Description Individual study under the supervision of a faculty member. Consent of Department required.

UNIVERSITY OF ALBERTA

Calendar Change Request Form - **Course Changes**

See the Calendar Guide for tips on how to complete this form

Faculty of Arts	**History, Classics and Religion**
Level of change (choose one only)	☐ Undergraduate ☒ Graduate
Contact Person:	Adam Kemezis
Department/Unit Approval Date:	14 October, 2022.

Rationale for change (Indicate other consultation groups, departments, units or faculties)

The Classics program teaches most of its 500-level graduate courses concurrently with 400-level undergraduate courses. All these courses are taught as variable-topics courses. Ideally, each 500-level ought to have one and only one corresponding 400-level equivalent, with an identical name. Over the past few years, mainly through irregular deletion of courses, the 400 and 500 lists have fallen out of sync so that some courses are taught under titles that do not match each other or properly reflect their content. These changes (and their undergraduate counterparts) are intended to ensure one-to-one correspondence and allow all our courses to be taught under appropriate titles. CLASS 514, CLASS 523 and CLASS 524 are housekeeping changes to provide equivalents (with identical titles) for CLASS 473, CLASS 481 and CLASS 463 respectively, and will not require new teaching resources. CLASS 517 provides for an anticipated new hire in Roman Archaeology, whose offerings may not fit under the current CLASS 516 “Topics in the Archaeology of the Roman Provinces” rubric. That latter rubric will be retained, as it is still useful in describing our ongoing offerings. The names of CLASS 515, CLASS 522 and CLASS 578 are being changed both to correspond with their undergraduate counterparts (CLASS 472, CLASS 490 and CLASS 478 respectively) and to reflect their function as variable-topics courses. This change was reviewed and passed by the Classics program on 23 Sep 2022.

Calendar Copy

Current: ~~Removed language~~ (Include all parts of course)	**Proposed:** New language
	CLASS 514 - Topics in Classical Archaeology **Course Career** Graduate **Units** 3 **Approved Hours** 0-3S-0 **Fee index** 6 **Faculty** Arts **Department** History & Classics **Typically Offered** either term **CLASS 515 - Topics in Greek Archaeology** **Course Career** Graduate

CLASS 515 - Topics in ~~the Archaeology of Greece~~

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 522 - ~~Studies in~~ Ancient History

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 517 - Topics in Roman Archaeology

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 522 - Topics in Ancient History

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 523 - Topics in Greek History

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 578 - Roman Art

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 524 - Topics in Roman History

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

CLASS 578 - Topics in Roman Art

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee index 6
Faculty Arts
Department History & Classics
Typically Offered either term

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Alberta School of Business
Contact Person:	Dr. Michelle Inness
Level of change: (choose one only)	• Undergraduate X
	• Graduate
Type of change request: (check all that apply)	• Program
	• Regulation X
For which term is this intended to take effect?	Winter 2023 Request for Early Implementation
Does this proposal have corresponding course changes? (Should be submitted at the same time)	NO

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Updates for the purpose of clarifying language that some thought was confusing.

Calendar Copy

URL in current Calendar (or "New page")

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
The Certificate in Innovation and Entrepreneurship will provide undergraduate students formal recognition for the innovation and entrepreneurship knowledge that they have acquired and demonstrated over the course of their academic career. The certificate will indicate to employers that the student has an understanding of how innovative and entrepreneurial processes can be leveraged to enhance social and economic outcomes, complementing and extending their primary areas of expertise.	The Certificate in Innovation and Entrepreneurship will provide undergraduate students formal recognition for the innovation and entrepreneurship knowledge that they have acquired and demonstrated over the course of their academic career. The certificate will indicate to employers that the student has an understanding of how innovative and entrepreneurial processes can be leveraged to enhance social and economic outcomes, complementing and extending their primary areas of expertise.
The Faculty of Business is the administrative unit for the Certificate in Innovation and Entrepreneurship, although students ~~who~~ earn this certificate ~~can take courses from other~~ participating Faculties offering	The Certificate in Innovation and Entrepreneurship is an embedded interdisciplinary certificate. The Faculty of Business is the administrative Unit for the Certificate. Students can earn the certificate while

courses that can be counted toward the certificate (~~ALES, Arts, Augustana, Engineering, Kinesiology, Sport and Recreation, Native Studies, and Science~~).	completing their undergraduate degree in one of the faculties offering courses that can be counted toward the certificate.
Normally the requirements for the Certificate in Innovation and Entrepreneurship can be completed as part of the requirements for a student's degree; however, in some cases, a student may need to take more than the minimum number of courses required for their degree program in order to qualify for both the degree and the certificate. The Certificate in Innovation and Entrepreneurship will be available to undergraduate students who are enrolled in degree programs offered by participating Faculties.	Normally the requirements for the Certificate in Innovation and Entrepreneurship can be completed as part of the requirements for a student's degree; however, in some cases, a student may need to take more than the minimum number of courses required for their degree program in order to qualify for both the degree and the certificate. The Certificate in Innovation and Entrepreneurship will be available to undergraduate students who are enrolled in degree programs offered by participating Faculties.
Requirements	Requirements
While completing the undergraduate program in their respective Faculties, students will be required to complete a minimum of 12 units from a list of designated courses. 6 units will come from the list of core courses, including 3 units in a required integrative projects course. This required integrative projects course will engage directly with key aspects of innovation and entrepreneurship and serve as the "capstone" experience for participating undergraduate students. In addition to these core courses, students will also be required to complete at least 6 units in electives.	While completing the undergraduate program in their respective Faculties, students will be required to complete a minimum of 12 units from a list of designated courses. 6 units will come from the list of core courses, including 3 units in a required final integrative projects course. This required integrative projects course will engage directly with key aspects of innovation and entrepreneurship and serve as the "capstone" experience for participating undergraduate students. In addition to these core courses, students will also be required to complete at least 6 units in electives.
Students will be asked to complete an "intention to complete the certificate" form available on the University of Alberta eHUB website and the Faculty of Business website. Application for the certificate is made to the Faculty of Business Undergraduate Office by February 1 for Spring Convocation and September 1 for Fall Convocation. At present, this certificate is not available to students who have already completed their degrees or who are not receiving a degree at the appropriate convocation. Students may pursue the Certificate in Innovation and Entrepreneurship by fulfilling existing requirements for majors, minor or honors in their respective disciplines and by completing the following:	Students will be asked to complete an "intention to complete the certificate" form available on the University of Alberta eHUB website and the Faculty of Business website. Application for the certificate is made to the Faculty of Business Undergraduate Office by February 1 for Spring Convocation and September 1 for Fall Convocation. At present, this certificate is not available to students who have already completed their degrees or who are not receiving a degree at the appropriate convocation. Students may pursue the Certificate in Innovation and Entrepreneurship by fulfilling existing requirements for majors, minor or honors in their respective disciplines and by completing the following:

6 units in core courses from the preapproved list of academic courses listed by eHUB and the Faculty of Business. 6 units in elective courses from the preapproved list of academic courses by eHUB and the Faculty of Business Notes: ● A maximum of 3 units from any given course can be used for the certificate. ● No more than 3 of the 12 units may be transfer credits from other postsecondary institutions . ● The certificate will be awarded at the time the students earn their undergraduate degree. ● Must be enrolled in a major that is part of the participating Faculties. ● Students must be in good academic standing at the time they register for the certificate and they must maintain good academic standing as they pursue the certificate. Students must maintain the minimum GPA for continuation in their respective programs. ● ~~Students will be required to register for the certificate no later than September 30 of their third year, or at completion of 60 units if studying part-time. No more than half of the course requirements taken for this certificate may overlap with courses taken for another certificate. This certificate is conceived as an interdisciplinary one, and at least one of the courses in the certificate should be taken from an outside Faculty.~~	6 units in core courses from the preapproved list of academic courses listed by eHUB and the Faculty of Business. 6 units in elective courses from the preapproved list of academic courses by eHUB and the Faculty of Business Notes: ● A maximum of 3 units from any given course can be used for the certificate. ● No more than 3 of the 12 units may be transfer credits from other postsecondary institutions. ● The certificate will be awarded at the time the students earn their undergraduate degree. ● Must be enrolled in a major that is part of the participating Faculties. ● Students must be in good academic standing at the time they register for the certificate and they must maintain good academic standing as they pursue the certificate. Students must maintain the minimum GPA for continuation in their respective programs. ● Students may enroll in this embedded certificate in any year of their undergraduate degree. However, students must complete a core course and two elective courses prior to registering for the final required core course - SEM 331: Integrative Capstone in Innovation and Entrepreneurship. ● In order to have the certificate awarded at graduation, students must have completed, SEM 331. ● No more than half of the course requirements taken for this certificate may overlap with courses taken for another certificate. ● This Certificate is conceived as an interdisciplinary one, and at least one of the courses in the certificate should ideally be taken from a different Faculty.

Reviewed/Approved by:

REQUIRED: Business Council on Oct 14th, 2022
OPTIONAL: Other internal faculty approving bodies, consultation groups, or departments, and approval dates.

Curriculum Committee Recommendation form

This form is used by the SLIS Curriculum Committee to document and recommend course changes, additions and modifications to the SLIS Academic Council and SLIS School Council for approval.

Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 505 - Introduction to Research in Library and Information Studies ★ 3 *(fi 6)* (~~second term~~, 3-0-0) An introduction to the fundamental concepts, approaches, and uses of research in library and information environments. Includes research design, proposal writing, identifying and defining research problems, critically evaluating and analyzing research, and applying research findings to solve practical problems in libraries and information centres. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Prerequisite: LIS 501 and 503.	**LIS 505 - Introduction to Research in Library and Information Studies** ★ 3 *(fi 6)* (either term, 3-0-0) An introduction to the fundamental concepts, approaches, and uses of research in library and information environments. Includes research design, proposal writing, identifying and defining research problems, critically evaluating and analyzing research, and applying research findings to solve practical problems in libraries and information centres. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Prerequisite: LIS 501 Co-requisite: LIS 503 or the consent of the instructor.

Recommendation:

The course description symbols and figures for LIS 505 Introduction to Research in Library and Information Studies be updated to reflect the course as a 3-credit course available in either term rather than as a second-term course. Second, that "corequisite" and "or consent of the instructor" be added.

Rationale:

LIS 505 Introduction to Research in Library and Information Studies may be offered in either term and does not need to be designated as offered in the second term only. Occasionally,

students may not have the LIS 503 pre- or corequisite but are able to meet LIS 505 course requirements particularly regarding searching the literature.

Curriculum Committee Recommendation form

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Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 516 - Canadian Children's Literature for Young People in Schools and Libraries ★ 3 *(fi 6)* (~~second term~~, 3-0-0) A survey of Canadian children's materials from books for babies to those aimed at the young adult market. Focus on contemporary works, trends in both publishing and content, and issues such as censorship, multimedia forms and the Internet. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Pre or corequisite: LIS 501 or consent of instructor.	**LIS 516 - Canadian Children's Literature for Young People in Schools and Libraries** ★ 3 *(fi 6)* (<u>either term</u>, 3-0-0) A survey of Canadian children's materials from books for babies to those aimed at the young adult market. Focus on contemporary works, trends in both publishing and content, and issues such as censorship, multimedia forms and the Internet. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Pre or corequisite: LIS 501 or consent of instructor.

Recommendation:

The course description symbols and figures for LIS 516 Canadian Children's Literature for Young People in Schools and Libraries be updated to reflect the course as a 3-credit elective available in either term rather than as a second-term course.

Rationale:

LIS 516 Canadian Children's Literature for Young People in Schools and Libraries may be offered in either term and does not need to be designated as offered in the second term only.

Curriculum Committee Recommendation form

This form is used by the SLIS Curriculum Committee to document and recommend course changes, additions and modifications to the SLIS Academic Council and SLIS School Council for approval.

Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 543 - Human Information Interaction ★ 3 *(fi 6)* (~~first term,~~ 3-0-0) An examination of individual and collaborative information needs, uses and practices in context. Students will develop an understanding of the crucial interaction between people and information. Pre or corequisite: LIS 501 or consent of the instructor	**LIS 543 - Human Information Interaction** ★ 3 *(fi 6)* (either term, 3-0-0) An examination of individual and collaborative information needs, uses and practices in context. Students will develop an understanding of the crucial interaction between people and information. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Pre or corequisite: LIS 501 or consent of the instructor

Recommendation:

The course description symbols and figures for LIS 543 Human Information Interaction be updated to reflect the course as a 3-credit elective available in either term rather than as a first-term course and that the notice of increased rate of fee assessment be added to the course description.

Rationale:

LIS 543 Human Information Interaction may be offered in either term and does not need to be designated as offered in the first term only. LIS 543 has been offered online at a different rate of fee assessment already and the calendar should reflect this.

Curriculum Committee Recommendation form

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Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 595 - Issues and Trends in Public Librarianship	**LIS 595 - Issues and Trends in Public Librarianship**
★ 3 *(fi 6)* (either term, 3-0-0) This survey course examines public librarianship from a community-led framework, which emphasizes the collaborative nature of developing and implementing library services. The course focuses on issues and trends in public librarianship, including programming, technology, library governance, service models, and services for diverse communities. Prerequisite: LIS 501	★ 3 *(fi 6)* (either term, 3-0-0) This survey course examines public librarianship from a community-led framework, which emphasizes the collaborative nature of developing and implementing library services. The course focuses on issues and trends in public librarianship, including programming, technology, library governance, service models, and services for diverse communities. Prerequisite: LIS 501 or consent of the instructor.

Recommendation:

That the course description for LIS 595 Issues and Trends in Public Librarianship be updated and harmonized with other SLIS course pre and corequisites by adding “or consent of the instructor.”

Rationale:

LIS 595 Issues and Trends in Public Librarianship does not have the qualifier “or consent of the instructor” similar to all of the SLIS courses. It is helpful to have this course description harmonized with other SLIS courses.

Curriculum Committee Recommendation form

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Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 597: Advanced ~~Scholarship and Research in LIS~~ ★ 3 *(fi 6)* (~~first term, 0-3s-0~~) ~~In-depth exploration of systematic approaches to scholarship and research in library and information studies for students pursuing thesis-route master's programs or other advanced projects.~~ Prerequisites: LIS 501, 502, 503 and 505; corequisite: LIS 504; or consent of the instructor.	**LIS 597: Advanced Research and Scholarship ~~and Research~~ in LIS** ★ 3 *(fi 6)* (either term, 3-0-0) Opportunity to initiate, design, and develop a self-selected research and/or scholarly project that builds upon or enhances previous knowledge, relevant experiences, or thesis work in library and information studies. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Prerequisites: LIS 501, 502, 503 and 505; corequisite: LIS 504; or consent of the instructor.

Recommendation:

(1) The course description symbols and figures for LIS 597 Advanced Scholarship and Research in LIS be updated to reflect LIS 597 as a 3-credit elective course available in either term.
(2) The course is structured similarly to other SLIS electives in terms of course structure and delivery such as 3-hour lectures.
(3) The course description includes the notice of increased rates of assessment.
(4) The course description more clearly articulates that LIS 597 is an opportunity for SLIS students to pursue further study and scholarship on a self-selected project and for thesis-route master's students to further their thesis projects.

Rationale:

(1) LIS 597 has typically been offered in the first term but this may not necessarily be the case in the future. Therefore, LIS 597 should reflect that it is similarly structured as

other SLIS electives and offered in either term. LIS 597 has been offered in the past at an increased rate of fee assessment and the course calendar can reflect this.

(2) The course is not necessarily a 3-hour seminar but rather similar to other SLIS electives in terms of course structure and delivery such as 3-hour lectures.

(3) The course is offered in the online teaching and learning stream and consequently needs to have the notice of increased rates of assessment.

(4) The fourth recommendation is that the course description more clearly articulates that LIS 597 is an opportunity for SLIS students to pursue further study on a self-selected project and for thesis-based master's students to further their thesis projects. The rationale for the fourth recommendation is based on a number of factors. First, LIS 597 is structured around the students' topics of interest (whether that is a thesis topic or a stand alone project)—students read in relevant areas, have different outcomes for the course, options for their final assignments (e.g., a publication reporting on pilot projects, a research proposal, complete ethics review, etc.). One of the benefits of taking LIS 597 as a cohort is that students are engaged in their work alongside others; they have a community of interested colleagues which increases their exposure to others' work, different perspectives, research methodologies and methods, and support. Second, in addition to LIS 597 being a required course for thesis students, LIS 597 is offered as an elective for non-thesis based students which will allow SLIS to more explicitly offer opportunities for in-depth study (i.e. students select the topic of interest and have choices about the final "product") for students in both the on-campus and online teaching and learning streams.

Curriculum Committee Recommendation form

This form is used by the SLIS Curriculum Committee to document and recommend course changes, additions and modifications to the SLIS Academic Council and SLIS School Council for approval.

Date: 27 May, 2022

Type of Change: [] NEW COURSE* [X] EXISTING COURSE [ ] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
LIS 599: Directed Study ★ ~~1-3 *(variable)*~~ (either term~~, variable~~) ~~Further study of special topics and issues, based on knowledge acquired in previous courses or on significant prior experience.~~ Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. ~~Topic and course weight to be approved by the School.~~ Prerequisite: consent of ~~department.~~	**LIS 599: Directed Study** ★ 3 (fi 6) (either term, 3-0-0). In-depth study of related topics for students pursuing thesis-based master's programs. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Topic to be approved by the thesis supervisor or co-supervisor. Prerequisite: consent of the thesis supervisor or co-supervisor.

Recommendation:

(1) The course description symbols and figures for LIS 599 Directed Study be updated to reflect LIS 599 as a 3-credit elective course available in either term.
(2) That LIS 599 Directed Study be restricted to students pursuing thesis-based master's programs only.
(3) Those students who would like to pursue further scholarship and research in special topics and issues, including thesis-based students, enroll in LIS 597 Advanced Research and Scholarship in LIS.
(4) That the consent no longer needs to come from the Department but rather from the supervisor or co-supervisor if the LIS 599 Directed Study is offered to thesis-based students only.

Rationale:

(1) In terms of the course description symbols and figures, SLIS no longer offers variable credit courses. Therefore, LIS 599 should reflect that it is a full 3-credit course (not variable) and offered in either term.
(2) The rationale for the second recommendation that LIS 599 Directed Study be restricted to students pursuing thesis-based master's programs only, is based on several factors. First, directed studies are extra to load for faculty members who have

agreed to supervise a directed study and require a significant time commitment from the faculty member to design the course, develop a reading list, and determine assignments, for example. In addition, SLIS currently offers LIS 599 Directed Study to on-campus students only, which has two implications: (1) there is not parity between our on-campus and online streams when online students are unable to take LIS 599 and (2) SLIS does not have the faculty capacity to offer LIS 599 Directed Study to our online students because of the higher enrollment in the online teaching and learning stream. However, LIS 599 Directed Study can be an important option for students who are in thesis-based master's programs and who can work directly with their thesis supervisor or co-supervisor.

(3) The third recommendation is that students who would like to pursue further scholarship and research in special topics and issues be directed toward LIS 597 Advanced Research and Scholarship in LIS. The rationale for this is based on several factors. First, LIS 597 is structured around the students' topics of interest—students will read in their area of interest, have different options for their final assignments (e.g., a publication, a research proposal, complete ethics review, etc.). One of the benefits of taking LIS 597 is that students are engaged in their work alongside others; they have a community of interested colleagues which increases their exposure to others' work, different perspectives, research methodologies and methods, and support. Second, in addition to LIS 597 being a required course for thesis students, LIS 597 is offered as an elective for non-thesis based students which will allow SLIS to more explicitly offer opportunities for in-depth study (i.e. students select the topic of interest and have choices about the final "product") for students in both the on-campus and online teaching and learning streams. Third, having a single faculty member teach LIS 597 to a number of students will ease the potential demands that can be placed on other faculty members for LIS 599 Directed Study while still providing a viable option for students who want to explore a topic in-depth.

(4) If LIS 599 Directed Study is offered to thesis-based students only, consent no longer needs to come from a student's academic advisor or from the SLIS Chair.

University of Alberta

Faculty of Education – School of Library and Information Studies

CALENDAR CHANGE REQUEST FORM

Implementation Calendar Year: 2023/24
Date: 27 May, 2022
Type of Change: [ ] NEW COURSE* [ ] EXISTING COURSE [X] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
~~**LIS 518 - Comic Books and Graphic Novels in Schools and Public Libraries**~~ ~~Examines the history and contemporary reality of comic book publishing and readership in Canada, Great Britain, Japan and the United States, and issues related to perception of the format by educators, librarians, and readers. Focus on collection development, censorship concerns and challenges, gender issues in both readership and content, genres, and impact of the Internet. Open to MLIS students and other graduate students. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Pre or corequisite: LIS 501 or consent of instructor.~~	

Course title:
LIS 518 Comic Books and Graphic Novels in Schools and Public Libraries

Rationale:
This course has not been offered in the previous six years and the course content is included in other courses (e.g. LIS 516). The recommendation is to delete this course from the University of Alberta's administrative systems.

University of Alberta

Faculty of Education – School of Library and Information Studies

CALENDAR CHANGE REQUEST FORM

Implementation Calendar Year: 2023/24
Date: 27 May, 2022
Type of Change: [ ] NEW COURSE* [ ] EXISTING COURSE [X] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
~~**LIS 521 - Access, Control, and Dissemination of Government Information**~~ ~~The focus will be on the Canadian federal system with a view towards discovering patterns, approaches, and techniques applicable to other jurisdictions and bodies, in particular, the United States and International Governmental Organizations. Pre-requisites: LIS 501, 502, and 503 or consent.~~	

Course title:

LIS 521 Access, Control, and Dissemination of Government Information

Rationale:

This course has not been offered in the previous six years and is included on the University of Alberta's reserve list. To remove a course from the reserve list, the course must be inactivate from the calendar or scheduled. The recommendation is to delete this course from the University of Alberta's administrative systems.

University of Alberta

Faculty of Education – School of Library and Information Studies

CALENDAR CHANGE REQUEST FORM

Implementation Calendar Year: 2023/24
Date: 27 May, 2022
Type of Change: [ ] NEW COURSE* [ ] EXISTING COURSE [X] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
~~**LIS 546 Marketing Library and Information Services**~~ ~~The principles of marketing and public relations for nonprofit organizations, with an emphasis on library and information services. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Prerequisites: LIS 501, 502, and 503, or consent of instructor.~~	

Course title:

LIS 546 Marketing Library and Information Services

Rationale:
This course has not been offered in the previous six years and is included on the University of Alberta's reserve list. To remove a course from the reserve list, the course must be inactivate from the calendar or scheduled. The recommendation is to delete this course from the University of Alberta's administrative systems.

University of Alberta

Faculty of Education – School of Library and Information Studies

CALENDAR CHANGE REQUEST FORM

Implementation Calendar Year: 2023/24
Date: 27 May, 2022
Type of Change: [ ] NEW COURSE* [ ] EXISTING COURSE [X] COURSE DELETION

CALENDAR COPY

CURRENT Calendar Section Number §[231.166] *(Use strike out for **all** changes)*	**PROPOSED** Calendar Section Number §[231.166] *(Underline **all** additions)*
~~**LIS 580 - Contemporary Theories and Practices of Reading**~~ ~~A study of different theories of reading (e.g. social, psychological, literary) and of sites and practices of literacy in an era of rapid cultural and technological change. Sections may be offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Pre or corequisite: LIS 501 or consent of instructor.~~	

Course title:
LIS 580 Contemporary Theories and Practices of Reading

Rationale:
This course last ran in Winter 2017. It was scheduled to run in Winter 2018 but was canceled. This course was a niche course offered by a former faculty member whose area of expertise was on this topic. There is no faculty member at SLIS who is an expert in this area. The recommendation is to delete this course from the University of Alberta's administrative systems.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Engineering (Electrical and Computer Engineering)	
Contact Person:	Marek Reformat	
Level of change (choose one only)	X	Undergraduate
		Graduate
For which term will this change take effect?	2023/24 (seeking early implementation in Winter 2023)	

Rationale

- *What brought about this idea for change*

The omnipresence of data in almost any branch of industry – including any related to electrical and even more to computer engineering - creates pressure on our students to know the basics of processing of data and its utilization, i.e., building different types of data models that could increase understanding of modeled phenomenon and lead to a variety of improvements related to this phenomenon.

Despite seeing Machine Learning (ML) as one of the buzzwords of today's IT field, there is a genuine value in knowing how to utilize various ML algorithms and techniques to analyze collected data and construct different types of models for classification or prediction purposes.

- How will it benefit students

Students who take the course would learn the theory and practice of several approaches and methods of processing data and building data models. It will increase students' set of skills that become almost a necessity for many job positions, and make them more competitive in the marketplace.

- How will it benefit Department/Unit

Currently, we do not offer any undergraduate course that focuses on ML topics. It can be said that such a course is well overdue. We want to provide our students with a comprehensive set of skills. It seems that adding much-wanted industry skills in data analysis and data utilization to construct data models is a must nowadays. This course will make our department more attractive to potential students, and prepare our graduates for today's and tomorrow's jobs.

- How is this change comparable to similar programs (internal or external)

Other departments and universities have already ML-related courses or courses with ML components in their curriculum. Having a dedicated ML course taken as a 4-th year elective by all ECE students will put our department on the map of ECE departments that provide modern education/training in the areas of ML and AI. See the attachment for a comparison with other similar courses, showcasing the unique opportunities of the proposed course.

- Include historical context

There is not much of a historical context related to ML courses. Currently, we have ECE 449 "Intelligent Systems Engineering" that covers fuzzy rule-based systems, supervised and reinforcement learning, self-organization, and the selection of neural network architectures. In addition, two graduate-level courses focus on "Data Analysis and Knowledge Discovery" (statistical ML) and "Data Exploration and Evolutionary Computing." Our department needs data and ML-related courses offered to all undergraduate students.

- Please describe how the changes/ proposal intends to facilitate program administration/ program structure.

The course aims to complement our undergraduate students' knowledge and skills in all ECE programs. The principles of data analysis and ML have become recognized as a necessary component look-for by many industries. It is anticipated the course will give our students timely and very much needed abilities to make them more versatile and round-educated engineers.

Course Template

Current (~~Removed language~~)	**Proposed (New language)**
NEW COURSE	**Subject & Number -** ECE 447 **Title -** Data Analysis and Machine Learning for Engineers **Course Career -** Undergraduate **Units -** 3.5 **Approved Hours -** 3-1s-0 **Fee index -** 8 **Faculty -** Engineering **Department -** Electrical & Computer Engineering **Typically Offered -** either term **Description** The course introduces basic concepts and techniques of data analysis and machine learning. Topics include: data preprocessing techniques, decision trees, nearest neighbor algorithms, linear and logistic regressions, clustering, dimensionality reduction, model evaluation, deployment methods, and emerging topics. Prerequisites: ECE 220 or CMPUT 275, and ECE 342 or STAT 235, or consent of instructor.

Reviewed/Approved by:

ECE Department Council: May 10, 2022
Faculty APC: May 13, 2022
Faculty ECC: Sep 20, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Faculty of Engineering, Department of Electrical and Computer Engineering	
Contact Person:	Ashwin Iyer	
Level of change (choose one only)	X	Undergraduate
		Graduate
Type of change request (check all that apply)	X	Program
		Regulation
For which term is this intended to take effect?	2023/24 (seeking early implementation in Winter 2023)	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes	

Rationale

The inclusion of ECE 447 provides an additional technical elective for ECE programs. Given that the course is not intended to target any specific specialization, where possible, it has been entered in the Group IIC category.

Calendar Copy

The following elective list changes should be made to 2 of the Computer Engineering program pages:
Bachelor of Science in Computer Engineering:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42882&returnto=11335
Bachelor of Science in Computer Engineering Co-op:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42885&returnto=11335

Current	**Proposed**
Bachelor of Science in Computer Engineering (Co-op) [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 423 - Distributed Computing System ECE 440 - Digital Computer Processing of Images ECE 442 - Introduction to Multimedia Signal Processing ECE 449 - Intelligent Systems Engineering	**Bachelor of Science in Computer Engineering (Co-op)** [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 423 - Distributed Computing System ECE 440 - Digital Computer Processing of Images ECE 442 - Introduction to Multimedia Signal Processing ECE 447 - Data Analysis and Machine Learning for

ECE 450 - Nanoscale Phenomena in Electronic Devices ECE 455 - Engineering of Nanobiotechnological Systems [...]	Engineers ECE 449 - Intelligent Systems Engineering ECE 450 - Nanoscale Phenomena in Electronic Devices ECE 455 - Engineering of Nanobiotechnological Systems [...]

The following elective list changes should be made to 2 of the Computer Engineering program pages:
Bachelor of Science in Computer Engineering - Nanoscale System Design Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42883&returnto=11335
Bachelor of Science in Computer Engineering Co-op - Nanoscale System Design Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42889&returnto=11335

Current	**Proposed**
Bachelor of Science in Computer Engineering (Co-op) - Nanoscale System Design Option [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 422 - Reliable and Secure Systems Design ECE 423 - Distributed Computing System ECE 449 - Intelligent Systems Engineering ECE 452 - Computation for Nanoengineering ECE 455 - Engineering of Nanobiotechnological Systems [...]	**Bachelor of Science in Computer Engineering (Co-op) - Nanoscale System Design Option** [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 422 - Reliable and Secure Systems Design ECE 423 - Distributed Computing System ECE 447 - Data Analysis and Machine Learning for Engineers ECE 449 - Intelligent Systems Engineering ECE 452 - Computation for Nanoengineering ECE 455 - Engineering of Nanobiotechnological Systems [...]

The following elective list changes should be made to 1 of the Computer Engineering program pages:
Bachelor of Science in Computer Engineering Co-op - Software Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42894&returnto=11335

Current	**Proposed**
Bachelor of Science in Computer Engineering Co-op - Software Option [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 423 - Distributed Computing System ECE 440 - Digital Computer Processing of Images ECE 442 - Introduction to Multimedia Signal Processing ECE 449 - Intelligent Systems Engineering ECE 455 - Engineering of Nanobiotechnological Systems [...]	**Bachelor of Science in Computer Engineering Co-op - Software Option** [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 423 - Distributed Computing System ECE 440 - Digital Computer Processing of Images ECE 442 - Introduction to Multimedia Signal Processing ECE 447 - Data Analysis and Machine Learning for Engineers ECE 449 - Intelligent Systems Engineering

	ECE 455 - Engineering of Nanobiotechnological Systems [...]

The following elective list changes should be made to 2 of the Electrical Engineering program pages:
Bachelor of Science in Electrical Engineering:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42837&returnto=11335
Bachelor of Science in Electrical Engineering Co-op:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42853&returnto=11335

Current	Proposed
Bachelor of Science in Electrical Engineering (Co-op) [...] **Program and Technical Electives** [...] **Group II Electives** [...] **Of the six single-term program electives in this group, at least three must be from** [...] **And at most two program electives may be chosen from the following list of courses:** [...] **Any remaining program electives may be chosen from the following list of courses:** ECE 341 - Analytical Methods in Electrical Engineering ECE 430 - Power System Analysis ECE 434 - Power System Protection and Grounding ECE 456 - Introduction to Nanoelectronics ECE 458 - Introduction to Microelectromechanical Systems ECE 472 - Photonics II ECE 474 - Introduction to Plasma Engineering [...]	**Bachelor of Science in Electrical Engineering (Co-op)** [...] **Program and Technical Electives** [...] **Group II Electives** [...] **Of the six single-term program electives in this group, at least three must be from** [...] **And at most two program electives may be chosen from the following list of courses:** [...] **Any remaining program electives may be chosen from the following list of courses:** ECE 341 - Analytical Methods in Electrical Engineering ECE 430 - Power System Analysis ECE 434 - Power System Protection and Grounding ECE 447 - Data Analysis and Machine Learning for Engineers ECE 456 - Introduction to Nanoelectronics ECE 458 - Introduction to Microelectromechanical Systems ECE 472 - Photonics II ECE 474 - Introduction to Plasma Engineering [...]

The following elective list changes should be made to 2 of the Electrical Engineering program pages:
Bachelor of Science in Electrical Engineering - Nanoengineering Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42852&returnto=11335
Bachelor of Science in Electrical Engineering Co-op - Nanoengineering Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42856&returnto=11335

Current	Proposed
Bachelor of Science in Electrical Engineering (Co-op) - Nanoengineering Option [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 410 - Advanced Digital Logic Design ECE 430 - Power System Analysis ECE 440 - Digital COmputer Processing of Images ECE 449 - Intelligent Systems Engineering ECE 452 - Computation for Nanoengineering ECE 455 - Engineering of Nanobiotechnological Systems [...]	**Bachelor of Science in Electrical Engineering (Co-op) - Nanoengineering Option** [...] **Program and Technical Electives** [...] **Group II Electives** [...] ECE 410 - Advanced Digital Logic Design ECE 430 - Power System Analysis ECE 440 - Digital COmputer Processing of Images ECE 447 - Data Analysis and Machine Learning for Engineers ECE 449 - Intelligent Systems Engineering ECE 452 - Computation for Nanoengineering ECE 455 - Engineering of Nanobiotechnological Systems [...]

The following elective list changes should be made to 2 of the Engineering Physics program pages:
Bachelor of Science in Engineering Physics:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42871&returnto=11335
Bachelor of Science in Engineering Physics Co-op:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42895&returnto=11335

Current	Proposed
Bachelor of Science in Engineering Physics (Co-op) [...] **Program and Technical Electives** [...] **Of the five program electives at least two must be from** [...] **Any remaining program electives may be chosen from the following list of courses:** [...] ECE 405 - Biophysical Measurement and Instrumentation ECE 410 - Advanced Digital Logic Design ECE 432 - Variable Speed Drivers ECE 440 - Digital Computer Processing of Images ECE 450 - Nanoscale Phenomena in Electronic Devices ECE 455 - Engineering of Nanobiotechnological Systems ECE 458 - Introduction to Microelectromechanical Systems [...]	**Bachelor of Science in Engineering Physics (Co-op)** [...] **Program and Technical Electives** [...] **Of the five program electives at least two must be from** [...] **Any remaining program electives may be chosen from the following list of courses:** [...] ECE 405 - Biophysical Measurement and Instrumentation ECE 410 - Advanced Digital Logic Design ECE 432 - Variable Speed Drivers ECE 440 - Digital Computer Processing of Images ECE 447 - Data Analysis and Machine Learning for Engineers ECE 450 - Nanoscale Phenomena in Electronic Devices ECE 455 - Engineering of Nanobiotechnological Systems ECE 458 - Introduction to Microelectromechanical Systems [...]

The following elective list changes should be made to 2 of the Engineering Physics program pages:
Bachelor of Science in Engineering Physics - Nanoengineering Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42892&returnto=11335
Bachelor of Science in Engineering Physics Co-op - Nanoengineering Option:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42899&returnto=11335

Current	Proposed
Bachelor of Science in Engineering Physics (Co-op) - Nanoengineering Option [...] **Program and Technical Electives** [...] **Of the two program electives at least one must be from:** [...] **Any remaining program electives may be chosen from the following list of courses:** [...] ECE 405 - Biophysical Measurement and Instrumentation ECE 410 - Advanced Digital Logic Design ECE 432 - Variable Speed Drivers ECE 440 - Digital Computer Processing of Images ECE 449 - Intelligent Systems Engineering ECE 458 - Introduction to Microelectromechanical Systems ECE 460 - Control Systems II [...]	**Bachelor of Science in Engineering Physics (Co-op) - Nanoengineering Option** [...] **Program and Technical Electives** [...] **Of the two program electives at least one must be from:** [...] **Any remaining program electives may be chosen from the following list of courses:** [...] ECE 405 - Biophysical Measurement and Instrumentation ECE 410 - Advanced Digital Logic Design ECE 432 - Variable Speed Drivers ECE 440 - Digital Computer Processing of Images ECE 447 - Data Analysis and Machine Learning for Engineers ECE 449 - Intelligent Systems Engineering ECE 458 - Introduction to Microelectromechanical Systems ECE 460 - Control Systems II [...]

Reviewed/Approved by:

ECE Department Council: May 10, 2022
Faculty APC: May 13, 2022
Faculty ECC: Sep 20, 2022

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Petroleum Course Sequence

Department:	**Civil and Environmental Engineering**
Change Request:	**Course sequence adjustment for petroleum traditional program**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
This change is addressing a request by many of our past and present students to move at least one more petroleum course to the second year. Currently, there is only one PET E course in Year 2, and the students feel the lone course in the second year is not encouraging them to be engaged in the program at the outset of their studies.

We are also moving the petroleum modelling course from Year 4 to Year 3. This change equips the students with critical knowledge and skills that they can use in their capstone project and other courses. The change also allows shifting the technical elective courses from Year 3 to Year 4, preparing the students to take the new 500-level courses as their technical electives.

The petroleum group has approved the proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=34&poid=38693&returnto=10268

Current	Proposed
Year 2	**Year 2**
Term 3	**Term 3**
• CH E 243 - Engineering Thermodynamics • EAS 210 - Engineering Earth Science • ECE 209 - Fundamentals of Electrical Engineering • MAT E 202 - Materials Science II	• CH E 243 - Engineering Thermodynamics • EAS 210 - Engineering Earth Science • ECE 209 - Fundamentals of Electrical Engineering • MAT E 202 - Materials Science II

• MATH 209 - Calculus III • ~~Complementary Studies Elective (3-0-0)~~	• MATH 209 - Calculus III • PET E 275 – Petroleum Reservoir Fluids
Term 4	**Term 4**
• CH E 312 - Fluid Mechanics • CIV E 270 - Mechanics of Deformable Bodies I • MATH 201 - Differential Equations • ~~PET E 275 - Petroleum Reservoir Fluids~~ • STAT 235 - Introductory Statistics for Engineering • Complementary Studies (3-0-0)	• CH E 312 - Fluid Mechanics • CIV E 270 - Mechanics of Deformable Bodies I • MATH 201 - Differential Equations • PET E 295 – Fundamental Reservoir Engineering • STAT 235 - Introductory Statistics for Engineering • Complementary Studies (3-0-0)
Year 3	**Year 3**
Term 5	**Term 5**
• CHEM 371 - Energetics of Chemical Reactions • • ENG M 310 - Engineering Economy **OR** • ENG M 401 - Financial Management for Engineers • • PET E 364 - Drilling Engineering • ~~PET E 373 - Fundamental Reservoir Engineering~~ • ~~Program and Technical Elective (3-0-0)~~ • Complementary Studies (3-0-0)	• CHEM 371 - Energetics of Chemical Reactions • ENG M 310 - Engineering Economy **OR** • ENG M 401 - Financial Management for Engineers • CH E 374 - Computational Methods in Engineering • PET E 364 - Drilling Engineering • PET E 375 – Applied Reservoir Engineering • Complementary Studies (3-0-0)
Term 6	**Term 6**
• ~~CH E 374 - Computational Methods in Engineering~~ • EAS 222 - Stratigraphy and Sedimentation • PET E 365 - Well Logging and Formation Evaluation • PET E 366 - Petroleum Production Operations • ~~Program and Technical Elective (3-~~	• CH E 314 – Heat Transfer • EAS 222 - Stratigraphy and Sedimentation • PET E 365 - Well Logging and Formation Evaluation • PET E 366 - Petroleum Production Operations • PET E 377 – Modelling in Petroleum Engineering

~~0-0)~~

Year 4

Term 7

- ~~CH E 314 - Heat Transfer~~
- ENGG 404 - Engineering Safety and Risk Management-Leadership in Risk Management
- PET E 444 - Natural Gas Engineering
- ~~PET E 475 - Applied Reservoir Engineering~~
- PET E 476 - Well Completion and Stimulation
- PET E 484 - Oil and Gas Property Evaluation

Term 8

- ENGG 400 - The Practice of the Engineering Profession
- PET E 471 - Enhanced Oil Recovery
- ~~PET E 477 - Modelling in Petroleum Engineering~~
- PET E 478 - Thermal Methods in Heavy Oil Recovery
- PET E 496 - Petroleum Engineering Design Project
- ITS Elective (3-0-0)

Year 4

Term 7

- Program and Technical Elective (3-0-0)
- ENGG 404 - Engineering Safety and Risk Management-Leadership in Risk Management
- PET E 444 - Natural Gas Engineering
- Complementary Studies (3-0-0)
- PET E 476 - Well Completion and Stimulation
- PET E 484 - Oil and Gas Property Evaluation

Term 8

- ENGG 400 - The Practice of the Engineering Profession
- PET E 471 - Enhanced Oil Recovery
- Program and Technical Elective (3-0-0)
- PET E 478 - Thermal Methods in Heavy Oil Recovery
- PET E 496 - Petroleum Engineering Design Project
- ITS Elective (3-0-0)

Department:	**Civil and Environmental Engineering**
Change Request:	**Course sequence adjustment for the petroleum co-op program**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?

This change is addressing a request by many of our past and present students to move at least one more petroleum course to the second year. Currently, there is only one pet e course in Year 2, and the students feel not having more courses in the second year is disengaging them from the program at the outset of their studies. We are also moving the petroleum modelling course from Term 8 to Term 6. This change equips the students with critical knowledge and skills that they can use in their capstone project and other courses. The change also allows shifting the technical elective courses from Year 3 to Year 4, enabling the students to take the new 500-level courses as their technical electives.

The petroleum group has approved the proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=34&poid=38695&returnto=10268

Current	Proposed
Year 2 **Fall Term 3** • CH E 243 - Engineering Thermodynamics • EAS 210 - Engineering Earth Science • ECE 209 - Fundamentals of Electrical Engineering • ENGG 299 - Orientation to Cooperative Education • MAT E 202 - Materials Science II • MATH 209 - Calculus III • ~~Complementary Studies Elective (3-0-0)~~ **Winter Term 4** • CH E 312 - Fluid Mechanics • CIV E 270 - Mechanics of Deformable Bodies I	**Year 2** **Fall Term 3** • CH E 243 - Engineering Thermodynamics • EAS 210 - Engineering Earth Science • ECE 209 - Fundamentals of Electrical Engineering • ENGG 299 - Orientation to Cooperative Education • MAT E 202 - Materials Science II • MATH 209 - Calculus III • PET E 275 – Petroleum Reservoir Fluids **Winter Term 4** • CH E 312 - Fluid Mechanics • CIV E 270 - Mechanics of Deformable Bodies I

• MATH 201 - Differential Equations • ~~PET E 275 - Petroleum Reservoir Fluids~~ • STAT 235 - Introductory Statistics for Engineering • Complementary Studies (3-0-0)	• MATH 201 - Differential Equations • PET E 295 – Fundamental Reservoir Engineering • STAT 235 - Introductory Statistics for Engineering • Complementary Studies (3-0-0)
Summer • WKEXP 901 - Engineering Work Experience I	**Summer** • WKEXP 901 - Engineering Work Experience I
Year 3	**Year 3**
Fall • WKEXP 902 - Engineering Work Experience II	**Fall** • WKEXP 902 - Engineering Work Experience II
Winter Term 5 • CH E 374 - Computational Methods in Engineering • EAS 222 - Stratigraphy and Sedimentation • PET E 366 - Petroleum Production Operations • PET E 365 - Well Logging and Formation Evaluation • ~~Program and Technical Elective (3-0-0)~~	**Winter Term 5** • CH E 374 - Computational Methods in Engineering • EAS 222 - Stratigraphy and Sedimentation • PET E 366 - Petroleum Production Operations • PET E 365 - Well Logging and Formation Evaluation • PET E 377 – Modelling in Petroleum Engineering
Summer • WKEXP 903 - Engineering Work Experience III	**Summer** • WKEXP 903 - Engineering Work Experience III
Year 4	**Year 4**
Fall Term 6 • CHEM 371 - Energetics of Chemical Reactions •	**Fall Term 6** • CHEM 371 - Energetics of Chemical Reactions

- ENG M 310 - Engineering Economy **OR**
- ENG M 401 - Financial Management for Engineers
-
- PET E 364 - Drilling Engineering
- ~~PET E 373 - Fundamental Reservoir Engineering~~
- ~~Program and Technical Elective (3-0-0)~~
- Complementary Studies (3-0-0)

Winter

- WKEXP 904 - Engineering Work Experience IV

Summer

- WKEXP 905 - Engineering Work Experience V

Year 5

Fall Term 7

- ~~CH E 314 - Heat Transfer~~
- ENGG 404 - Engineering Safety and Risk Management-Leadership in Risk Management
- PET E 444 - Natural Gas Engineering
- ~~PET E 475 - Applied Reservoir Engineering~~
- PET E 476 - Well Completion and Stimulation
- PET E 484 - Oil and Gas Property Evaluation

Winter Term 8

- ENGG 400 - The Practice of the Engineering Profession
- PET E 471 - Enhanced Oil Recovery

- ENG M 310 - Engineering Economy **OR**
- ENG M 401 - Financial Management for Engineers

- PET E 364 - Drilling Engineering
- PET E 375 – Applied Reservoir Engineering
- CHE 314 – Heat Transfer
- Complementary Studies (3-0-0)

Winter

- WKEXP 904 - Engineering Work Experience IV

Summer

- WKEXP 905 - Engineering Work Experience V

Year 5

Fall Term 7

- Complementary Studies (3-0-0)
- ENGG 404 - Engineering Safety and Risk Management-Leadership in Risk Management
- PET E 444 - Natural Gas Engineering
- Program and Technical Elective (3-0-0)
- PET E 476 - Well Completion and Stimulation
- PET E 484 - Oil and Gas Property Evaluation

Winter Term 8

- ENGG 400 - The Practice of the Engineering Profession
- PET E 471 - Enhanced Oil Recovery
- Program and Technical Elective (3-0-0)

• ~~PET E 477 - Modelling in Petroleum Engineering~~ • PET E 478 - Thermal Methods in Heavy Oil Recovery • PET E 496 - Petroleum Engineering Design Project • ITS Elective (3-0-0)	• PET E 478 - Thermal Methods in Heavy Oil Recovery • PET E 496 - Petroleum Engineering Design Project • ITS Elective (3-0-0)

In which academic year is this change required? 2023-2024			
Department Contact		**Associate Chair, Undergraduate Program**	
Name:		**El Lobo Cruz Noguez**	
Email:		cruznogu@ualberta.ca	
Department Chair or Designate			
Name:		**Samer Adeeb**	
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates • Faculty of Engineering Academic lead • Program Support Team committee			
Approval pathway and dates • Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022 • Faculty APC: October 12, 2022 • Faculty ECC: October 25, 2022			

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
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Program and Technical Electives

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
Some of the technical elective courses in the current list are either not technical in nature (are complementary study or basic study courses) or are repetitive or have been discontinued. Further, the petroleum group will offer new 500-level courses, which will be available as a technical elective to the undergrad students.

The petroleum group has approved the proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=34&poid=38693

Current	Proposed
The two program electives should be chosen from the following:	**The two program electives should be chosen from the following:**
~~ACCTG 300 - Introduction to Accounting~~ ~~B LAW 301 - Legal Foundations of the Canadian Economy~~ ~~B LAW 428 - Natural Resource and Environmental Law~~ CH E 343 - Chemical Engineering Thermodynamics CH E 522 - Fundamentals of Oil Sands Upgrading CH E 534 - Fundamentals of Oilsands Extraction CIV E 265 - Engineering Drawing	CH E 343 - Chemical Engineering Thermodynamics CH E 522 - Fundamentals of Oil Sands Upgrading CH E 534 - Fundamentals of Oilsands Extraction CIV E 265 - Engineering Drawing and Computer Graphics CME 265 EAS 204 - Environment Alberta EAS 205 - Environment Earth EAS 209 - Geology of Western Canada and the National and Provincial Parks

and Computer Graphics • CME 265 • EAS 204 - Environment Alberta • EAS 205 - Environment Earth • EAS 209 - Geology of Western Canada and the National and Provincial Parks • EAS 323 - Introduction to Hydrogeology • ~~ECON 355~~ • ~~ECON 365 - Resource Economics~~ • ~~ECON 366 - Energy Economics~~ • ECE 341 - Analytical Methods in Electrical Engineering • ENGG 406 - Engineering Safety and Risk Management - Methodologies and Tools • ~~ENGG 420 - Engineering Law~~ • ~~ENG M 530 - Engineering Project Management~~ • ~~FIN 301 - Introduction to Finance~~ • ~~FIN 422 - Capital Investment~~ • GEOPH 224 - Geophysical Exploration Techniques • GEOPH 326 - Seismic Imaging • MAT E 345 - Corrosion, Oxidation, and Degradation • ~~MATH 253 - Theory of Interest~~ • ~~MATH 300 - Advanced Boundary Value Problems I~~ • ~~MATH 311 - Theory of Functions of a Complex Variable~~ • ~~MATH 337 - Introduction to Partial Differential Equations~~ • ~~MATH 436 - Intermediate Partial Differential Equations I~~ • ~~MATH 438~~ • ~~MEC E 340 - Applied Thermodynamics~~ • ~~OM 352 - Operations Management~~ • ~~OM 422 - Simulation and Computer Modelling Techniques in Management~~ • ~~OM 426~~ • ~~PHYS 230 - Electricity and Magnetism~~ • ~~SEM 301 - Behavior in~~	• EAS 323 - Introduction to Hydrogeology • ECE 341 - Analytical Methods in Electrical Engineering • ENGG 406 - Engineering Safety and Risk Management - Methodologies and Tools • GEOPH 224 - Geophysical Exploration Techniques • GEOPH 326 - Seismic Imaging • MAT E 345 - Corrosion, Oxidation, and Degradation • STAT 361 - Sampling Techniques • STAT 368 - Introduction to Design and Analysis of Experiments • PET E 510-Applied Inverse Problem Analysis in Subsurface Engineering • PET E 520-Energy Rock Engineering • PETE 530-Geothermal Energy • PET E 540- Unconventional Reservoir Engineering • PETE 550-Characterization of Subsurface Reservoirs • PET E 560-Life Cycle Assessment (LCA) for Subsurface Energy Production **Note:** That some of these courses may have prerequisites. Other courses may be taken with Department approval.

~~Organizations~~ • ~~SEM 321 - Introduction to Strategic Management and Organization Design~~ • ~~SEM 402 - Management Skills for Supervisors and Leaders~~ • ~~SEM 404 - Interpersonal Communication and Team Management~~ • ~~SEM 412 - Effective Negotiations~~ • STAT 361 - Sampling Techniques • STAT 368 - Introduction to Design and Analysis of Experiments **~~Notes~~** ~~Credit will only be given for one of B LAW 301 and ENGG 420, and for one of EAS 204 and EAS 205. ACCTG 300 can be used as either a program or complementary elective.~~ **Note:** That some of these courses may have prerequisites. Other courses may be taken with Department approval.	

In which academic year is this change required? 2023-2024			
Department Contact	**Associate Chair, Undergraduate Program**		
Name:	**El Lobo Cruz Noguez**		
Email:	cruznogu@ualberta.ca		
Department Chair or Designate			
Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates • Faculty of Engineering Academic lead • Program Support Team committee			
Approval pathway and dates • Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022 • Faculty APC: October 12, 2022 • Faculty ECC: October 25, 2022			

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?

PET E 373 is moved from Year 3 Fall to Year 2 Winter. This change is in response to several requests over the years from the students (also documented in the recent feedback obtained from the students in a Questionnaire conducted by the Petroleum SPE club) to increase the number of second-year courses from the current single course (PET E 275 is the only second-year petroleum course, offered currently in the Winter). This change will also help our co-op students who have been doing WKEXP 901 and 902 with only PET E 275.

PET E 473 has last been offered in 2011. Therefore, any reference to PET E 473 should be removed from the course description.

The petroleum group is in approval of this proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42823&returnto=11335

Current	Proposed
PET E ~~373~~ - Fundamental Reservoir Engineering ★ 3.8 (fi 8)(EITHER, 3-0-3/2) Rock properties (porosity, permeability): definition, measurement and models. Rock-fluid interaction (wettability, relative permeability, interfacial tension, capillary pressure): definition, measurement and models. Single and multiphase flow through porous media Darcy equation and diffusivity equation: Derivation and solution for different coordinates and	**PET E 295 - Fundamental Reservoir Engineering** ★ 3.8 (fi 8)(EITHER, 3-0-3/2) Rock properties (porosity, permeability): definition, measurement and models. Rock-fluid interaction (wettability, relative permeability, interfacial tension, capillary pressure): definition, measurement and models. Single and multiphase flow through porous media Darcy equation and diffusivity equation: Derivation and solution for different coordinates and

boundary conditions. Prerequisite: PET E 275. PET E ~~373~~ cannot be taken for credit if credit has already been obtained in PET E ~~473~~.	boundary conditions. Prerequisite: PET E 275. PET E 295 cannot be taken for credit if credit has already been obtained in PET E 373.

In which academic year is this change required? 2023-2024			
Department Contact	**Associate Chair, Undergraduate Program**		
Name:	**El Lobo Cruz Noguez**		
Email:	cruznogu@ualberta.ca		
Department Chair or Designate			
Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022

Consultation process and dates

- Faculty of Engineering Academic lead
- Program Support Team committee

Approval pathway and dates

- Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022
- Faculty APC: October 12, 2022
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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
PET E 373 is proposed to be recoded to PET E 295

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42823&returnto=11335

Current	Proposed
PET E 471 - Enhanced Oil Recovery ★ 3 (fi 8) (EITHER, 3-0-0) Classification of EOR methods, areal, vertical and volumetric sweep efficiencies, predictive models for immiscible displacement. Frontal advance theory and Buckley-Leverett-Weldge approach. Chemical (alkaline, polymer, surfactant, micellar injection) flooding. Miscible-immiscible gas (hydrocarbon and CO2) injection. Prerequisite: PET E 373.	**PET E 471 - Enhanced Oil Recovery** ★ 3 (fi 8) (EITHER, 3-0-0) Classification of EOR methods, areal, vertical and volumetric sweep efficiencies, predictive models for immiscible displacement. Frontal advance theory and Buckley-Leverett-Weldge approach. Chemical (alkaline, polymer, surfactant, micellar injection) flooding. Miscible-immiscible gas (hydrocarbon and CO2) injection. Prerequisite: PET E 295 or PET E 373.

In which academic year is this change required?	**2023-2024**
Department Contact	**Associate Chair, Undergraduate Program**
Name:	**El Lobo Cruz Noguez**
Email:	cruznogu@ualberta.ca
Department Chair or Designate	

Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
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Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
PET E 475 is moved from Year 4 Fall to Year 3 Fall. Inserting PET E 475 in Year-3 Fall is appropriate from the students' readiness viewpoint and opens a space in Fall Year 4 for a technical elective. Doing the technical elective courses in Year 4 enables the students to choose the new 500 level courses the petroleum program will offer.

The petroleum group is in approval of this proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42823&returnto=11335

Current	Proposed
PET E ~~475~~ - Applied Reservoir Engineering ★ 3.8 (fi 8) (EITHER, 3-3S/2-0) Reserves estimation. Analysis and prediction of reservoir performance by use of material balance. Primary recovery performance for water influx and solution gas drive reservoirs. Decline curve analysis. Basics of well test analysis. Pressure drawdown and buildup tests. Average reservoir pressure estimation. Drill stem testing and gas well testing. Prerequisite: PET E 373.	**PET E 375 - Applied Reservoir Engineering** ★ 3.8 (fi 8) (EITHER, 3-3S/2-0) Reserves estimation. Analysis and prediction of reservoir performance by use of material balance. Primary recovery performance for water influx and solution gas drive reservoirs. Decline curve analysis. Basics of well test analysis. Pressure drawdown and buildup tests. Average reservoir pressure estimation. Drill stem testing and gas well testing. Prerequisite: PET E 295 or PET E 373. PET E 375 cannot be taken for credit if credit has already been obtained in PET E 475.

In which academic year is this change required? 2023-2024			
Department Contact		**Associate Chair, Undergraduate Program**	
Name:		**El Lobo Cruz Noguez**	
Email:		cruznogu@ualberta.ca	
Department Chair or Designate			
Name:		**Samer Adeeb**	
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022 ● Faculty APC: Oct 12, 2022 ● Faculty ECC: Oct 25, 2022			

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
PET E 477 is moved from Year 4 Winter to Year 3 Winter. This change is in response to several requests over the years from the students to move the modelling course to earlier terms for them to use their knowledge and training in other courses, including PET E 471 (Enhanced Oil Recovery), PET E 478 (Thermal Methods in Heavy Oil Recovery) and PET E 496 (Petroleum Engineering Design). Further, moving PET E 477 opens a space for a technical elective course in Year 4 Winter, allowing the undergrad students to choose from the new 500-level courses.

The petroleum group is in approval of this proposed change.

Current Calendar URL:
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42823&returnto=11335

Current	Proposed
PET E ~~477~~ - Modelling in Petroleum Engineering ★ 3 (fi 8) (EITHER, 3-0-0) Basics of numerical reservoir simulation and numerical solution of partial differential equations. Simulation methods as applied to specific problems in petroleum reservoir behavior. Applications on primary, secondary and tertiary recovery phases of petroleum production using commercial simulation packages. Prerequisite~~s~~: PET E 373 ~~and~~ CH E 374.	**PET E 377 - Modelling in Petroleum Engineering** ★ 3 (fi 8) (EITHER, 3-0-0) Basics of numerical reservoir simulation and numerical solution of partial differential equations. Simulation methods as applied to specific problems in petroleum reservoir behavior. Applications on primary, secondary and tertiary recovery phases of petroleum production using commercial simulation packages. Prerequisite: PET E 295 or PET E 373, Corequisite: CH E 374.

	PET E 377 cannot be taken for credit if credit has already been obtained in PET E 477.

In which academic year is this change required? 2023-2024			
Department Contact		**Associate Chair, Undergraduate Program**	
Name:		**El Lobo Cruz Noguez**	
Email:		cruznogu@ualberta.ca	
Department Chair or Designate			
Name:		**Samer Adeeb**	
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022

Consultation process and dates

- Faculty of Engineering Academic lead
- Program Support Team committee

Approval pathway and dates

- Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022
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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**
Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)? PET E 373 is proposed to be recoded to PET E 295	
Current Calendar URL: https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42823&returnto=11335	

Current	Proposed
PET E 478 - Thermal Methods in Heavy Oil Recovery ★ 3 (fi 8) (EITHER, 3-0-0) A design course covering new developments in the area of heavy oil recovery. Will include modeling and designing heavy-oil recovery applications and thermal methods. Prerequisite: PET E 373.	**PET E 478 - Thermal Methods in Heavy Oil Recovery** ★ 3 (fi 8) (EITHER, 3-0-0) A design course covering new developments in the area of heavy oil recovery. Will include modeling and designing heavy-oil recovery applications and thermal methods. Prerequisite: PET E 295 or PET E 373.

In which academic year is this change required?	**2023-2024**
Department Contact	**Associate Chair, Undergraduate Program**
Name:	**El Lobo Cruz Noguez**
Email:	cruznogu@ualberta.ca
Department Chair or Designate	
Name:	**Samer Adeeb**

Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022

Consultation process and dates

- Faculty of Engineering Academic lead
- Program Support Team committee

Approval pathway and dates

- Department (APC, GPC, Council): APC: 18-March-2022; Council: 16-May-2022
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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?

One of the key recommendations from the previous CEAB visit is to incorporate more discipline-specific technical elective courses in the undergraduate program. It is requested that this course be assigned a 500-level code because the topics covered would be suitable for both undergrad and graduate students. A broad range of subsurface engineering applications will be discussed in the course, which could be of interest to students from other programs within the College of Natural + Applied Sciences.

Inverse problems are often encountered in subsurface engineering applications, ranging from model parameter estimation, production history matching to machine learning involving big data. Students will learn about the formulation of an inverse problem. A variety of solution techniques for both linear and non-linear inverse problems are covered. Students will learn how to integrate data from diverse data sources and scales. Examples and assessments will focus on the unique aspects and challenges associated with a variety of subsurface engineering applications.

The course was presented to the Petroleum Curriculum Taskforce and the Petroleum group, and the proposal was discussed and approved.

Current Calendar URL: Not available

Current	Proposed
N/A	**PET E 510 - Applied Inverse Problem Analysis in Subsurface Engineering** ★ 3(fi 6) (EITHER, 3-0-0) Linear and non-linear inverse problem formulation. Local, global and ensemble-based optimization methods. Regularization techniques. Assessment of solution quality. Error and uncertainty analysis. Data integration. Subsurface engineering applications: model parameter estimation, production history matching, machine learning. Primary focus is on the application of various solution methods. Prerequisite: STAT 235 and CH E 374 or consent of instructor.

In which academic year is this change required? 2023-2024			
Department Contact	**Associate Chair, Graduate Program** **Associate Chair, Undergraduate Program**		
Name:	**Wei Victor Liu** **El Lobo Cruz Noguez**		
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca		
Department Chair or Designate			
Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022

Consultation process and dates

- Faculty of Engineering Academic lead
- Program Support Team committee

Approval pathway and dates

- Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022
- Faculty GPC: 07-Sept-2022
- Faculty APC: October 12, 2022
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Course description and justification

1. Calendar description

PET E 510 - Applied Inverse Problem Analysis in Subsurface Engineering
★ 3(fi 6) (EITHER, 3-0-0)
Linear and non-linear inverse problem formulation. Local, global and ensemble-based optimization methods. Regularization techniques. Assessment of solution quality. Error and uncertainty analysis. Data integration. Subsurface engineering applications: model parameter estimation, production history matching, machine learning. Primary focus is on the application of various solution methods.

Prerequisite: STAT 235 and CH E 374 or consent of instructor

2. Course justification

Justify the creation of the new course including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.
There has been an increasing demand for more diverse course offerings covering numerical analysis and data analytics topics. Although other departments are offering several system identification and engineering optimization courses, there are unique aspects associated with formulating such problems in the context of subsurface characterization and engineering applications. Complex subsurface multiphase flow dynamics, uncertainty in subsurface heterogeneities, and multifaceted data from diverse sources and scales often render these types of inverse problems to be particularly challenging and interesting. This course will focus on the application of different solution techniques.

3. Learning outcomes and graduate attributes

Information to complete this section is provided in Appendix.

- Formulate an inverse problem with appropriate inputs and outputs.
- Develop suitable solution strategies for both linear and non-linear inverse problems.
- Apply the techniques to solve various practical inverse problems often encountered in subsurface engineering.
- Assess the quality and uncertainty of the solutions.

4. Relation between learning outcome and graduate attributes

Learning outcomes	**Key and measurable graduate attribute(s)**	**Instructional level**
Formulate an inverse problem with appropriate inputs and outputs	Problem analysis, knowledge base	D
Develop suitable solution strategies for both linear and non-linear inverse problems	Problem analysis, knowledge base	D
Apply the techniques to solve a variety of practical inverse	Use of engineering tools	D

problems often encountered in subsurface engineering		
Assess the quality and uncertainty of the solutions	Investigation	D

5. Text books (if any)

Class notes, videos, assignments, announcements, and other relevant materials will be posted on eClass.

Text and References (Recommended):

1. Menke, W. (2012). Geophysical data analysis: discrete inverse theory: MATLAB edition (Vol. 45). Academic Press.
2. Oliver, D. S., Reynolds, A. C., & Liu, N. (2008). Inverse theory for petroleum reservoir characterization and history matching.
3. Larose, D.T., Larose, C.D. (2015). Data Mining and Predictive Analytics, John Wiley & Sons.
4. Leung, J.Y., Srinivasan, S. (2022). Petroleum Reservoir Modeling and Simulation: Geology, Geostatistics, and Performance Prediction, McGraw-Hill.

6. Course outline and schedule

Week	Topic
1	Introduction – forward vs. inverse problems
2	How to formulate an inverse problem?
3	Basics of linear inverse problems
4	Least-square formulation
5	Non-unique solutions and regularization techniques
6	Basics of non-linear inverse problems
7	Local optimization: gradient-based techniques
8	Global optimization
9	Uncertainty assessment, Monte Carlo sampling, experimental design
10	Ensemble-based methods
11	Integrating data from multiple sources and scales
12	Application – machine learning, regression analysis
13	Application – image analysis
14	Application – production data analysis

7. Expected and types of assessments and suggested grade weight

Assignments 30%
Project 40%
Final Exam 30%

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			

Natural Sciences			
Engineering Science	1-4	Homework/project/exam	100
Engineering Design (requires PEng)		Requires open-ended assessments/projects	
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
2. Total Seminar hours = course seminar hours as per calendar description x 12.6 weeks = Y
3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH
Total AUs in a course AU_{total}= 12.6 x (X+ ½ Y + ½ Z)
Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category "i", is H_i
where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)[1]
Percentage course content in AU category i, is: $\%_i = H_i/TCH$
Accreditation unit for category i, is: $A_i = AU_{total} \times \%_i$

Final course AUs

Total	Math	NS	ES	ED	CS	Other
			37.8			

9. Lab components

- Describe any lab or seminar component. If there are hands on labs, detail each experiment, equipment, and the required safety documentation, procedures, and assessments.
- Has the course videos from the faculty's development of safety videos and assessments?

None.

10. Required resources

Describe any necessary resources to create and delivery course on an ongoing basis.
None.

11. Relationship to Other Courses Offered at the Graduate Level if any

None.

[1] do not use other unless work experience, experiential learning etc – consult Associate Chair or Associate Dean

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**New Graduate Course**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
A graduate course with similar content has been offered in the petroleum program under PET E 694 since 2013. Per the previous CEAB visit recommendations, the petroleum program will offer petroleum elective courses to undergraduate students. Energy Rock Engineering course will be assigned a 500-level code and be available to our undergrad students as well as the graduate students. The course will cover the basics of rock mechanics and its applications in conventional and unconventional petroleum wellbore and reservoir engineering, wellbore integrity, geothermal, and CO2 sequestration. The course was presented to the Petroleum Curriculum Taskforce and the Petroleum group, and the proposal was discussed and approved.

Current Calendar URL: Not available

Current	Proposed
N/A	**PET E 520 - Energy Rock Engineering** ★3 *(fi 6)* (EITHER, 3-0-0) Elements of rock mechanics, rock mechanical properties and their assessment from lab testing and sonic logs, in-situ stresses and their assessment, single and multi-stage hydraulic fracturing, rock fracability, perforation for fracturing, stress shadow, wellbore stability during drilling, sand production, reservoir porosity and permeability evolution, caprock and wellbore integrity. Prerequisite: PET E 364 and PET E 365 or consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Chair Graduate Program** **Associate Chair Undergrad Program**

Name:	**Wei Victor Liu** **Carlos Cruz**		
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca		
Department Chair or Designate			
Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Petroleum Curriculum Task Force, Oct 27, 2021 ● Petroleum Group:			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: 07-Sept-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

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Course description and justification

1. Calendar description

PET E 520 - Energy Rock Engineering

★3 *(fi 6)* (EITHER, 3-1S-0). Elements of rock mechanics, rock mechanical properties and their assessment from lab testing and sonic logs, in-situ stresses and their assessment, single and multi-stage hydraulic fracturing, rock fracability, perforation for fracturing, stress shadow, wellbore stability during drilling, sand production, reservoir porosity and permeability evolution, caprock and wellbore integrity. Prerequisite: PET E 364 and PET E 365 or consent of instructor.

2. Course justification

Rock mechanics plays a crucial role in wellbore and reservoir engineering, including wellbore stability, sand production, caprock and wellbore integrity, and hydraulic fracturing. This course aims at introducing the fundamentals of rock mechanics and the application of rock mechanics in describing and predicting such problems or phenomena.

This course has been offered yearly within the petroleum graduate program as a PET E 694 course since 2013. The petroleum group would like to dedicate a course number as a 500-level course and make it also available to undergrad petroleum students as an elective course. Rock mechanics has a significant impact on well construction and production performance. Yet, our undergrad students and most graduate students are not aware of and are not exposed to rock mechanics. This course is

tailored for petroleum senior undergrad students as well as graduate students and will expose them to rock mechanics as applied to energy applications.

3. Learning outcomes and graduate attributes

Information to complete this section is provided in Appendix.

By the end of the course, students should be able to:

1. understand basic concepts in rock mechanics
2. understand how to assess mechanical rock properties from laboratory testing and well logs
3. understand the concept of in situ stress and its assessment
4. calculate stress distribution around boreholes
5. apply rock mechanics knowledge for wellbore engineering issues such as wellbore stability, sand production, hydraulic fracturing, and wellbore integrity
6. apply rock mechanics knowledge for reservoir and ground issues such as reservoir permeability and porosity evolution, caprock integrity, and land subsidence/heave

4. Relation between learning outcome and graduate attributes

Learning outcomes	**Key and measurable graduate attribute(s)**	**Instructional level**
Rock mechanics concepts, and rock properties assessments	Knowledge base	Introductory
To learn how to do wellbore stability calculations and determine the mud window	Problem analysis	Applied
To learn how to do sand production assessment for wellbores with openhole completions and perforated wells	Problem analysis	Applied
To learn how to assess hydraulic fracture geometry, calculate rock fracability, stress shadow, and perforation effectiveness in fracturing operations	Problem analysis	Applied
To learn the basics of reservoir rock permeability and porosity evolution during the petroleum production	Knowledge base	Introduced
To learn the basics of wellbore and caprock integrity	Knowledge base	Introduced

5. Text books (if any)

Text and References

1. Fjar, E., Holt, R.M., Raaen, A.M., Risnes, R., Horsrud, P. (2008) Petroleum Related Rock Mechanics, 2nd Edition, Elsevier

Other Reference Material

2. Zoback, M.D. (2007) Reservoir Geomechanics, Cambridge University Press
3. Zoback, M.D., Kohli, A.H. (2019) Unconventional Reservoir Geomechanics: Shale Gas, Tight Oil, and Induced Seismicity, Cambridge University Press
4. Smith, M.B., Montgomery, C.T. (2015) Hydraulic Fracturing, CRC Press
5. Wang, H. (2000) Theory of Linear Poroelasticity, Princeton University Press

6. Peng, S., Zhang, J. (2007) Engineering Geology for Underground Rocks, Springer
7. Maurice Duessault course notes, University of Waterloo
8. Amadei, B., Stephansson, O. (1997) Rock Stress and its measurement. Chapman & Hall, London
9. Atkinson, B.K. (1989) Fracture Mechanics of Rock, Academic Press, London
10. Barton, N. (2007) Rock quality, seismic velocity, attenuation and anisotropy. Taylor & Francis, London.
11. Brady, B.H.G., Brown, E.T. (2004) Rock Mechanics for Underground Mining. Third Edition, Chapman & Hall, London.
12. Coates, D. F. (1981) Rock Mechanics Principles, CANMET Monograph 874. Canadian Government Publishing Centre, Ottawa.
13. Goodman, R.E. (1989) Introduction to Rock Mechanics, Second Edition, John Wiley & Sons, New York.

6. Course outline and schedule

1. *An Introduction to energy geomechanics (1 session)*
2. *Elements of Rock Mechanics*
    - *Stress tensor, strain tensor, stress-strain relationship, pore pressure, effective stress, Equilibrium equation (2 sessions)*
    - *Rock stiffness, tensile and shear strength (1 session)*
    - *Mechanical properties from laboratory testing, core representativeness and influence of sample size, core alteration, core handling, sample preparation, tensile tests, UCS, triaxial test, hydrostatic test, TWC test, strength profiling, fracture toughness test (1 session)*
    - *Rock properties from wireline logs and geophysical exploration, elastic modulus, Poisson's ratio, UCS, strength estimation from physical properties (1 session)*
3. *Stress with constant and variable pore pressure around boreholes (2 sessions)*
4. *In-situ stress regimes, overburden stress, min and max horizontal stress, pore pressure (2 sessions)*
5. *In situ stress assessment (2 sessions)*
    - *Overburden stress calculation*
    - *Minimum horizontal stress assessment from DFIT*
        - *G-function method*
        - *Pressure derivative and square root method*
        - *After closure analysis*
    - *Maximum horizontal stress determination*
    - *In-situ stress directions*
    - *Pore pressure assessment*
6. *Hydraulic fracturing*
    - *Fracture geometry (1 session)*
        - *Fracture modes*

- *Fracture initiation and formation breakdown*
- *Fracture orientation, growth and confinement*
- *Fracture length and height; PKN and KGD models*
- *Stiffness, permeability, and thermal effects on fracturing pressure and propagation*
- *Microseismic map as a measure of fracture growth*

- *Rock fracability (1 session)*
  - *Brittleness Index*
  - *Fracability Index*
- *Perforation for Hydraulic Fracturing (1 session)*
  - *Perforation direction, diameter and phasing*
  - *Promoting transverse fracture*
- *Stress shadow in multi-stage fracturing (1 session)*
- *Geothermal fracture engineering (1 session)*

7. *Wellbore stability during drilling (2 sessions)*
   - *Borehole failure criteria*
   - *Borehole breakouts*
   - *Stability of vertical and slanted wells*
   - *Lost circulation*
   - *Mud window*
   - *Interaction between shale and drilling fluid*
8. *Sand production (2 sessions)*
   - *Forces on sand grains*
   - *Sandstone failure*
   - *Critical drawdown for the onset of sanding*
   - *Sanding rate assessment*
   - *Sand transport*
   - *Sand control*
9. *Reservoir Geomechanics (1 session)*
   - *Changes in stress in and around the reservoir*
   - *Changes in porosity and permeability*
   - *Surface subsidence and heave*
   - *Fault reactivation*
10. *Caprock Integrity mechanisms (1 session)*
    - *Integrity of SAGD caprock*
    - *Integrity of caprock during and after CO2 injection*
11. *Wellbore integrity mechanisms, completion integrity, casing and cement sheath integrity, fault reactivation, integrity of older wells, case studies (1 session)*

7. Expected and types of assessments and suggested grade weight

Mid-term (35%), Final Exam (45%), Assignments (20%)

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			
Natural Sciences			
Engineering Science	1-6	Homework/project/exam	100
Engineering Design (requires PEng)		Requires open-ended assessments/projects	
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
2. Total Seminar hours = course seminar hours as per calendar description x 12.6 weeks = Y
3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH
Total AUs in a course AU_{total}= 12.6 x (X+ ½ Y + ½ Z)
Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category "i", is H_i
where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)[1]
Percentage course content in AU category i, is: $\%_i = H_i/TCH$
Accreditation unit for category i, is: $A_i = AU_{total} \times \%_i$

Final course AUs

Total	Math	NS	ES	ED	CS	Other
			37.8			

9. Lab components

- Describe any lab or seminar component. If there are hands on labs, detail each experiment, equipment, and the required safety documentation, procedures, and assessments.
- Has the course videos from the faculty's development of safety videos and assessments?

None

10. Required resources

Describe any necessary resources to create and delivery course on an ongoing basis.
None.

Relationship to Other Courses Offered at the Graduate Level if any

[1] do not use other unless work experience, experiential learning etc – consult Associate Chair or Associate Dean

CIV E 698, Petroleum Geomechanics, is sometimes offered in our department. However, the course is designed for civil students with basic knowledge in rock mechanics and is not tailored for undergrad petroleum students without a rock mechanics background.

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
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Department:	**Civil and Environmental Engineering**
Change Request:	**New Course**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
This is a new course. The purpose of the new course is to broaden the knowledge base of petroleum-engineering students and have them exposed to the different technologies used for developing geothermal energy. It is under review by the petroleum engineering group.

Current Calendar URL: Not available

Current	Proposed
N/A	**PET E 530 - Geothermal Energy** ★ 3(fi 6) (EITHER, 3-0-0) Fundamentals of heat and mass transfer applied to geothermal engineering. Exploitation methods of geothermal energy. Operation and management of geothermal projects. Economic feasibility of geothermal projects. Prerequisite: PET E 295 and PET E 366 or consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Chair Graduate Program**
Name:	**Wei Victor Liu** **Carlos Cruz**
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca
Department Chair or Designate	
Name:	**Samer Adeeb**

Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: 07-Sept-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

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Course description and justification

1. Calendar description

PET E 530 - Geothermal Energy
★ 3(fi 6) (EITHER, 3-0-0)
Fundamentals of heat and mass transfer applied to geothermal engineering. Exploitation methods of geothermal energy. Design of geothermal projects. Economic feasibility of geothermal projects.
Prerequisite: PET E 295 and PET E 366 or consent of instructor.

2. Course justification

Justify the creation of the new course, including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.

Geothermal energy is one type of green energy that can contribute to satisfying the growing demand for energy and replacing part of the existing demand for fossil fuels. If geothermal projects are well managed, they emit none to a much smaller amount of greenhouse gases than the oil/gas projects. There are abundant geothermal energy resources in Canada, albeit being largely untouched. There has been an increasing interest from the public and the government to tap into alternative energy resources. In the past 3 years, there have been several pilot tests being carried out in Alberta (Terrapin Geothermics Alberta #1 Project), Saskatchewan (Deep Geothermal Power Project), and British Columbia (Borealis Geopower Valemount Project). Petroleum engineering students can pursue their careers in the geothermal energy sector. But currently, there is a low level of awareness among PETE students. Although the knowledge and skills required in the exploitation of geothermal energy can be largely derived from the existing PET E courses, PETE students are not familiar with the different types of geothermal energy resources as well as the engineering techniques being used to unlock them. The new course will fill this gap. Making geothermal projects economic is a challenging issue; currently, most of the geothermal pilot tests in Canada receive governmental funding support. An emphasis will also be given to the economic assessment of geothermal projects.

3. Learning outcomes and graduate attributes
Information to complete this section is provided in Appendix*.*

By the end of the course, students should be able to:

- Using field data and mathematical models, determine the geothermal gradients and heat content at different depths.
- Determine the recoverable fraction of a geothermal reservoir.
- Carry out an engineering design of a workflow used to exploit a conventional geothermal reservoir.
- Carry out engineering design of an enhanced geothermal system.
- Assess the economic feasibility of geothermal projects.

4. Relation between learning outcome and graduate attributes

Learning outcomes	**Key and measurable graduate attribute(s)**	**Instructional level**
Using field data and mathematical models, determine the geothermal gradients and heat content at different depths.	Problem analysis, knowledge base	D
Determine the recoverable fraction of a geothermal reservoir.	Problem analysis, knowledge base	D
Determine the production method for a conventional geothermal reservoir.	Problem analysis, knowledge base	D
Determine the production method for an enhanced geothermal system.	Problem analysis, knowledge base	D
Assess the economic feasibility of geothermal projects.	Economics and project management	A

5. Textbooks (if any)
Stober, I.; Bucher, K. Geothermal Energy: From Theoretical Models to Exploration and Development. Springer.

6. Course outline and schedule

Week	**Topic**
1-2	● Thermodynamics involved in geothermal energy exploitation
3-4	● Heat and mass transfer fundamentals relevant to geothermal energy exploitation
5	● Types and characteristics of geothermal reservoirs

6	● Geothermal energy exploitation relevant to indigenous communities
7	● Exploitation methods of geothermal energy (Conventional geothermal systems; Enhanced geothermal systems)
8	● Drilling technology
9	● Well completion and stimulation technology
10	● Geothermal energy conversion technology (Dry steam power plant; Flash steam plant; Binary cycle power plant)
11	● Design of a conventional geothermal reservoir.
12-13	● Design of an enhanced geothermal system.
14	● Economic evaluation of geothermal projects

7. Expected and types of assessments and suggested grade weight

- Assignments 20%
- Quizzes 10%
- Project 40%
- Final Exam 30%

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			
Natural Sciences			
Engineering Science	1-5	Homework/project/exam	100
Engineering Design (requires PEng)			
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
2. Total Seminar hours = course seminar hours as per calendar description x 12.6 weeks = Y
3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH
Total AUs in a course AU_{total}= 12.6 x (X+ ½ Y + ½ Z)
Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category "i", is H_i
where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)[1]
Percentage course content in AU category i, is: $\%_i = H_i/TCH$
Accreditation unit for category i, is: $A_i = AU_{total} \times \%_i$

Final course AUs

Total	Math	NS	ES	ED	CS	Other
			37.8			

9. Lab components

None.

10. Required resources

Describe any necessary resources to create and deliver course on an ongoing basis.
None.

Relationship to Other Courses Offered at the Graduate Level if any

There are no similar PETE courses that are currently offered.

[1] do not use other unless work experience, experiential learning etc – consult Associate Chair or Associate Dean

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here. Full Governance (not internal to ENGG) calendar changes process are here.

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?

This course was offered in Winter 2018 and Winter 2019 as an elective graduate-level course (PET E 694). The objective was to teach engineering and science related to the state-of-the-art practice of hydrocarbon production from unconventional reservoirs. Currently, the materials covered in this course are not included in our PET E curriculum. Therefore, it has been suggested by the PET E group to offer it as a 500-level course.

Current Calendar URL:

Current	Proposed
New Course	**PET E 540 - Unconventional Reservoir Engineering** ★3 *(fi 6)* (EITHER, 3-0-0) Classification and petrophysical characterization of unconventional reservoirs. Well testing and production data analysis of fractured reservoirs. Enhanced hydrocarbon recovery methods in unconventional reservoirs. Prerequisite: PET E 295 and PET E 365 or consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Chair (Undergraduate Program)**
Name:	**Wei Victor Liu** **Carlos Cruz**
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca

Department Chair or Designate			
Name:		**Samer Adeeb**	
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: 07-Sept-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

Email an editable word version to adppengg@ualberta.ca and foedpp@ualberta.ca

Course description and justification

1. Calendar description

PET E 540 - Unconventional Reservoir Engineering

★3 *(fi 6)* (EITHER, 3-0-0). Classification and petrophysical characterization of unconventional reservoirs. Well testing and production data analysis of fractured reservoirs. Enhanced hydrocarbon recovery methods in unconventional reservoirs. Prerequisite: PET E 295 and PET E 365 or consent of instructor.

2. Course justification

Justify the creation of the new course including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.

This course was offered in Winter 2018 and Winter 2019 as an elective graduate-level course (PET E 694). The objective was to teach engineering and science related to the state-of-the-art practice of hydrocarbon production from unconventional reservoirs. Currently, the materials covered in this course are not included in our undergrad or graduate PET E curriculum. Therefore, it has been suggested by the PET E group to offer it as a 500-level course.
This course will cover the concepts of reservoir engineering, hydrocarbon production techniques, rock characterization, and rock-fluid interactions in unconventional low-permeability reservoirs. The current practices of hydraulic fracturing operations and well completion methods will be reviewed. The flow geometry and transport phenomena in fractured reservoirs will be modelled, and the models will be applied to several case studies. The water flowback and production data analysis theories will be used for reservoir and fracture characterization and production forecasting. Special core analysis methods such as tight-rock analysis (TRA) and rock-eval pyrolysis will be reviewed for petrophysical characterization of unconventional rock samples. Finally, rock-fluid and fluid-fluid

interactions will be reviewed to evaluate enhanced oil recovery by injecting carbon dioxide, natural gas, and surfactant solutions in depleted unconventional reservoirs.

3. Learning outcomes and graduate attributes

Information to complete this section is provided in Appendix*.*

Learning outcomes and graduate attributes

By the end of the course, students will:

- Become familiar with fundamental differences between conventional and unconventional reservoirs
- Understand different techniques for stimulation of unconventional reservoirs
- Learn to analyze petrophysical properties of unconventional rocks
- Learn the theories of fluid flow in fractured porous media
- Learn to analyze production data from fractured horizontal wells using pressure- and rate-transient models
- Learn to identify the best practices for enhanced oil recovery from unconventional wells

4. Relation between learning outcome and graduate attributes

Learning outcomes	Key and measurable graduate attribute(s)	Instructional level
Become familiar with fundamental differences between conventional and unconventional reservoirs	- Knowledge Base (KB)	- Developed
Understand different techniques for stimulation of unconventional reservoirs	- Knowledge Base (KB)	- Developed
Learn to analyze petrophysical properties of unconventional rocks	- Problem Analysis (PA)	- Applied
Learn the theories of fluid flow in fractured porous media	- Engineering Science (ES)	- Developed
Learn to analyze production data from fractured horizontal wells using pressure and rate-transient models and commercial software	- Problem Analysis (PA) - Engineering Tools (ET)	- Developed - Applied
Learn to identify the best practices for enhanced oil recovery from unconventional wells	- Investigation (IN)	- Developed

5. Text books (if any)

Class notes, videos, assignments, announcements, and other relevant materials will be posted on eClass.

6. Course outline and schedule

1. ***Introduction to Unconventional Resource Plays*** *(1 session)*
   - Classic and modern definitions of unconventional resources
   - Introducing shales as resource plays and reservoirs
   - Major shale and tight resources in the US and Canada
   - Major shale and tight resources in the rest of the world
2. ***Fracturing Operations and Completion Design in Horizontal Wells*** *(2 sessions)*

- Horizontal drilling and multistage hydraulic fracturing techniques
- Design parameters of multistage-fracture completion
- Novel techniques in fracturing and completion of horizontal well-pads
- Fracturing Fluid Additives

3. ***Water Flowback Data Analysis*** *(4 sessions)*
   - Fracturing treatment, soaking, and water flowback
   - Reasons behind low water recovery during flowback periods
   - Evaluating fracture volume by analyzing pressure and rate measured during flowback period
   - Flowback salt analysis
4. ***Production Data Analysis*** *(4 sessions)*
   - Review of pressure and rate transient analysis
   - Introducing dual- and triple-porosity models for production data analysis of multifractured horizontal wells
   - Fracture characterization using production data analysis. Case studies from Western Canadian Sedimentary Basin
5. ***Petrophysical Characterization of Tight and Shale Rock Samples*** *(5 sessions)*
   - Porosity of core plugs and crushed samples
   - Absolute permeability of core plugs and crushed samples
   - Pore size distribution (PSD) of unconventional rocks
   - Rock mineralogy
   - Initial fluid saturations (Retort technique)
   - Kerogen content, type, and maturity (Rock-eval pyrolysis)
6. ***Wettability Analysis*** *(5 sessions)*
   - Importance of wettability evaluation in unconventional reservoirs
   - Wettability measurement techniques for unconventional rocks
   - Case studies of wettability evaluation for rock samples from Horn River, Montney tight-oil, Montney tight-gas, Duvernay, and Eagle Ford Formations
   - Evaluating the correlations between oil wettability index and petrophysical properties
   - Dual-wet behavior of unconventional rocks
7. ***Enhanced Oil Recovery (EOR) Methods in Unconventional Reservoirs*** *(3 sessions)*
   - Enhancing oil recovery using surfactant solutions
   - Enhancing oil recovery using energized fluids such as hydrocarbon gas and Carbon Dioxide
   - Re-fracturing techniques to recover remaining oil from unstimulated part of the reservoir

7. Expected and types of assessments and suggested grade weight

- Final exam 40%
- Midterm exam 25%
- Homework problem (4 assignments) 35%

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			
Natural Sciences			
Engineering Science	1-6	Homework/project/exam	100
Engineering Design (requires PEng)		Requires open-ended assessments/projects	
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
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3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH

Total AUs in a course AU_{total}= 12.6 x (X+ ½ Y + ½ Z)

Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category “i", is H_i

where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)[1]

Percentage course content in AU category i, is: $\%_i = H_i/TCH$

Accreditation unit for category i, is: $A_i = AU_{total} \times \%_i$

Final course AUs

Total	Math	NS	ES	ED	CS	Other

[1] do not use other unless work experience, experiential learning etc – consult Associate Chair or Associate Dean

			37.8			

9. Lab components

- Describe any lab or seminar component. If there are hands on labs, detail each experiment, equipment, and the required safety documentation, procedures, and assessments.
- Has the course videos from the faculty's development of safety videos and assessments?

None.

10. Required resources

Describe any necessary resources to create and delivery course on an ongoing basis.

None.

11. Relationship to Other Courses Offered at the Graduate Level if any

None.

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**New Course**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
This is a new course. It was once offered as PETE 694 (Special Topics in Petroleum Engineering) in Fall 2007. The purpose of the course is to provide the theory and practices of the standard and practical methods to collect and analyze data for reservoir characterization.

Current Calendar URL: Not available

Current	Proposed
New course	**PET E 550 - Characterization of Subsurface Reservoirs** ★ 3(fi 6) (Winter, 3-0-0) Methods used to characterize geological structures (well logging, well testing, stochastic and fractal models, production and drilling data). Examples, projects and practices with real life problems and case studies. Prerequisites: PET E 365 and PET E 375 or consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Chair Graduate Program**
Name:	**Wei Victor Liu** **Carlos Cruz**
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca
Department Chair or Designate	
Name:	**Samer Adeeb**

Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: 07-Sept-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

Email an editable word version to adppengg@ualberta.ca and foedpp@ualberta.ca

Course description and justification

1. Calendar description

PET E 550 - Characterization of Subsurface Reservoirs
★ 3(fi 6) (Winter, 3-0-0)
Characterization of subsurface reservoirs is an essential part of modeling and assessment of engineering applications in this type of media. Methods used to characterize geological structures (well logging, well testing, stochastic and fractal models, production and drilling data) will be reviewed. Students will obtain hands-on experiences through examples, projects and practices. Real life problems will be used in the examples and case studies.

Pre-requisite: PET E 365 and PET E 375 or consent of instructor.

2. Course justification

Without proper understanding and quantification of reservoir structures, no models can be used for costly and risky engineering practices in subsurface reservoirs. Also, the tools used for data collection are highly expensive and quantification of reservoir properties with minimal data requires special efforts. This course provides the theory and practices of the standard and practical methods to collect and analyze data for reservoir characterization.
This course does not teach well logging and well testing as the main subject matter. It is a course that will teach students how to conduct full blast reservoir characterization using some of the tools they learned in their previous course (Well Logging & Well testing) together with other tools they did not learn previously (such as stochastic and Fractal techniques.

3. Learning outcomes and graduate attributes

- Understand the basics of techniques such as well logging, well testing, stochastic and fractal techniques.

- Develop static models with reliably defined reservoir properties.
- Apply these techniques to quantitatively describe the reservoir parameters needed for dynamic models.
- Asses the uncertainty of the solutions.

4. Relation between learning outcome and graduate attributes

Learning outcomes	Key and measurable graduate attrib	Instructional level
Understand the basics of techniques such as well logging, well testing, stochastic and fractal techniques.	Problem analysis, knowledge base	D
Develop static models with reliably defined reservoir properties.	Problem analysis, knowledge base	D
Apply these techniques to quantitatively describe the reservoir parameters needed for dynamic models.	Use of engineering tools	D
Asses the uncertainty of the solutions.	Investigation	D

5. Text books (if any)

1. Reservoir Characterization - I (ed. L. Lake and H.B. Carroll)
2. Theory, Measurement, and Interpretation of Well Logs (Z. Bassiouni)
3. Schlumberger – Log Interpretation Charts
4. Schlumberger – Log Interpretation : Principles and Applications
5. Well Test Analysis: The Use of Advanced Interpretation Models (D. Bourdet)
6. Advances in Well Test Analysis (R.C. Earlougher) SPE
7. Pressure Buildup and Flow Tests in Wells (C.S. Matthews and D.G. Russell) SPE
8. Naturally Fractured Reservoir Characterization (W. Narr, D.W. Schechter, and L.B. Thompson) SPE
9. Fractals in reservoir engineering (H.H. Hardy and R.A. Beier)
10. Fractals (J. Feder)
11. Statistics for Petroleum Engineer and Geoscientists (J.L. Jensen, L.W. Lake, P.W.M. Corbett, and D.J. Goggin)

6. Course outline and schedule

Well logging in reservoir characterization (4 weeks)

- Review of basic petrophysical properties and concepts/equations used in well log analysis.
- Interpretation of resistivity, acoustic, and radioactive logs.
- Use of unconventional logs in reservoir characterization.
- Porosity-permeability relationship: pore scale, statistical, fractal and log derived correlations.
- Statistical analysis of log derived porosity and permeability data.

Well testing in reservoir characterization (4 weeks)

- Review of basics of pressure transient analysis and well test types.
- Assessment of heterogeneity and anisotropy through pulse and interference tests.
- Derivative and type curve concepts and characterization of naturally fractured reservoirs.
- Numerical well testing. Pitfalls and misinterpretation of well test data.

Statistical, fractal, geostatistical and stochastic techniques in reservoir characterization (5 weeks)

- Basic concepts of statistics, fractal geometry, and stochastic modeling.
- Deterministic techniques used in reservoir characterization. Basics of geostatistics.
- Stochastic techniques and fractal concept in reservoir characterization.
- Up-scaling of permeability and relative permeability.
- Fracture (single and network) characterization through fractal analysis.
- Techniques used for spatial distribution of porosity and permeability. Preparation of static reservoir model using stochastic techniques.
- Assessment of the degree of vertical and horizontal heterogeneity.

7. Expected and types of assessments and suggested grade weight

GRADING

Semester work: 50%		**Final Project: 50%**
1. Mid-term exam (1) **2.** Homeworks (4)	**35 %** **15 %**	Written oral presentations due the last week of the classes. Grading will be based on problem definition, creativity in solution methodology, results, and presentation

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			
Natural Sciences			
Engineering Science	1-4	Homework/project/exam	100
Engineering Design (requires PEng)		Requires open-ended assessments/projects	
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
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3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH

Total AUs in a course AUtotal= 12.6 x (X+ ½ Y + ½ Z)

Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category “i", is Hi where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)1

Percentage course content in AU category i, is: %i= Hi/TCH

Accreditation unit for category i, is: Ai= AUtotal x %i

Final course AUs

Total	Math	NS	ES	ED	CS	Other
			37.8			

9. Lab components

None

10. Required resources

None

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**New Course**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
This is a new course. The purpose of the new course is to provide the knowledge of life cycle assessment (LCA) of GHG emission of various oil and gas operations to petroleum (engineering in general) students. In fact, many regulatory bodies worldwide have this assessment as a mandatory requirement as a part of project proposal and review process. Informed decisions of new technology adoption and implementation rely on LCA.

Current Calendar URL: Not available

Current	Proposed
N/A	**PET E 560 - Life Cycle Assessment (LCA) for Subsurface Energy Production** ★ 3(fi 6) (EITHER, 3-0-0) Overview of LCA applications from various subsurface operations and LCA of Greenhouse gas emissions, Basics of LCA and methods, Steps for LCA, Life Cycle Inventory, Impact Assessment, LCA Interpretation: Uncertainty Assessment and Sensitivity Analysis, Case studies on Assessing CO_2 Utilization, and Life cycle GHG emissions of tight oil production, oil sand technologies, geothermal operations, and H2 production. Prerequisites: ENG M 310/ENG M 401 and PET E 366 or consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Chair Graduate Program**
Name:	**Wei Victor Liu**

	Carlos Cruz		
Email:	wvliu@ualberta.ca cruznogu@ualberta.ca		
Department Chair or Designate			
Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: 07-Sept-2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: Oct 25, 2022			

Email an editable word version to adppengg@ualberta.ca and foedpp@ualberta.ca

Course description and justification

1. Calendar description

PET E 560 - Life Cycle Assessment (LCA) for Subsurface Energy Production

★ 3(fi 6) (EITHER, 3-0-0)

Overview of LCA applications from various subsurface operations and LCA of Greenhouse gas emissions, Basics of LCA and methods, Steps for LCA, Life Cycle Inventory, Impact Assessment, LCA Interpretation: Uncertainty Assessment and Sensitivity Analysis, Case studies on Assessing CO2 Utilization, and Life cycle GHG emissions of tight oil production, oil sand technologies, geothermal operations, and H2 production.

Prerequisite: ENG M 310, ENG M 401, PET E 366 or consent of instructor

2. Course justification

Justify the creation of the new course including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.

Sustainability and environmental impacts are becoming more of a concern in oil and gas engineering. In last few years, there has been a big push, both from government and industry, for sustainable energy production. Therefore, life cycle assessment of GHG emission have been critical component of any oil and gas operations. In fact, many regulatory bodies worldwide have this assessment as a mandatory requirement as a part of project proposal and review process. Informed decisions of new technology adoption and implementation reply on LCA. Consultation with industry peers, student bodies, recent graduates and task force of petroleum graduate program review committee also strongly suggested that a course providing subject knowledge of life cycle assessment of GHG emissions during various oil and gas processes (subsurface energy production, in general) and models/tools to compare various processes will be essential for energy producers. Currently, there are no such course is available, specific for subsurface energy production. Every year more than 25 new graduate students are joining the petroleum program. This course will be useful for overall development of these students. It is also anticipated that the course will also attract graduate students of other programs and departments such as environmental and mining engineering, chemical engineering, and mechanical engineering. This course will also provide an elective option to 4th and 5th year UG students and serve as a catalyst to attract good quality UG students who are thriving to have diversified knowledge in the area of greenhouse gas emissions, sustainable energy production and LCA of various oil and gas operations.

3. Learning outcomes and graduate attributes
Information to complete this section is provided in Appendix*.*

By the end of the course, students should be able to:

- explain what is meant by Life Cycle Thinking and LCA
- understand LCA concepts, methodologies and standards and how to apply them
- Perform LCA for the greenhouse gas emissions during various subsurface energy production systems, technologies and productions;
- Conduct an LCA to determine the lifecycle environmental performance of a particular energy technology over competing options
- Use different available tools to conduct LCA and gain knowledge to develop an LCA tool.
- Prepare and analyze an LCA report.

4. Relation between learning outcome and graduate attributes

Learning outcomes	**Key and measurable graduate attribute(s)**	**Instructional level**

Explain what is meant by Life Cycle Thinking and LCA	KB	Developed
Understand LCA concepts, methodologies and standards and how to apply them	KB, PA	Developed
Perform LCA for the greenhouse gas emissions during various subsurface energy production systems, technologies and productions	Investigation (IN)	Applied
Conduct an LCA to determine the lifecycle environmental performance of a particular energy technology over competing options	Impact of engineering on society and the environment (IS) Investigation (IN)	Applied
Use different available tools to conduct LCA and gain knowledge to develop an LCA tool.	Use of engineering tools (ET)	Applied
Prepare and analyze an LCA report.	Investigation (IN) Individual and team work (TW)	Applied

5. Text books (if any)
None.

6. Course outline and schedule
1) Overview and importance of LCA applications for petroleum engineers (1 week)
2) Overview of life cycle of Greenhouse gas emissions (1 week)
3) Basics of LCAs and methods (2 week)

4) Creating LCA product (1 week)
5) Parts of LCA process: study goals, system boundaries, functional unit, CO2 source modelling (2 week)
6) Life Cycle Inventory (1 week)
7) Life Cycle Impact Assessment (1 week)
8) Life Cycle Interpretation: Uncertainty Assessment and Sensitivity Analysis (1 week)
9) Case studies: (6 weeks)
    a. Assessing CO2 Utilization
    b. Synthetic Natural Gas Production from Different CO2 Sources
    c. Life cycle GHG emissions of tight oil (Bakken Study)
    d. Life Cycle GHG Emissions of Oil Sands Technologies
    e. Life-Cycle GHG Emissions of Shale Gas, Natural Gas, Coal, and Petroleum
    f. Life Cycle of H2 production and Geothermal operations

7. Expected and types of assessments and suggested grade weight

Project 1 # 30%
Project 2 # 40%
Final Exam 30%

8. Accreditation units (for 1xx to 5xx level courses) and justification

AU Category	Linked to which learning outcome	Type of assessment used	Percentage of course content (see calculation below)
Math			
Natural Sciences			
Engineering Science	1-6	Homework/project/exam	100
Engineering Design (requires PEng)		Requires open-ended assessments/projects	
Complementary studies			
Other			

Accreditation unit (AU) calculation – a category of AU that is less than 25% of the course cannot be reported for the course accreditation units.

1. Total Lecture hours = course lecture hours as per calendar description x 12.6 weeks = X
2. Total Seminar hours = course seminar hours as per calendar description x 12.6 weeks = Y
3. Total Lab hours = course lab hours as per calendar description x 12.6 weeks = Z

Total course hours = X+Y+Z = TCH

Total AUs in a course AU_{total}= 12.6 x (X+ ½ Y + ½ Z)

Number of hours (lecture, seminar, lab) spent on teaching and doing examples of accreditation category “i", is H_i

where subscript, i, is for the number total hours spent in course for either Math (M), Engineering Design (ED), Natural Sciences (NS), Engineering Science (ES), Complementary studies (CS), or Other (O)[1]

Percentage course content in AU category i, is: $\%_i = H_i/TCH$

Accreditation unit for category i, is: $A_i = AU_{total} \times \%_i$

Final course AUs

Total	Math	NS	ES	ED	CS	Other
			37.8			

9. Lab components

None

10. Required resources

Describe any necessary resources to create and deliver course on an ongoing basis.

None.

Relationship to Other Courses Offered at the Graduate Level if any

There are no similar PETE courses that are currently offered.

[1] do not use other unless work experience, experiential learning etc – consult Associate Chair or Associate Dean

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Engineering, Mechanical Engineering
Contact Person:	Tara Penner
Level of change (choose one only) [?]	Graduate
For which term will this change take effect?	Fall 2023

Rationale

Technical communications is an essential skill for professional engineers. Currently, the U of A does not offer a graduate-level communications course targeted to engineers. For the past 3 semesters (Spring 2021, Fall 2021, Winter 2022), “Technical Communications” has been offered as an Advanced Topics in Engineering (ENG M 670).

The 150 students who have already taken this course have indicated that the course was extremely useful and has helped them improve their communication skills. As a result, the Department of Mechanical Engineering would like this to become a permanent course in the calendar.

This course will cover a number of aspects of technical communication that students will need in their engineering careers. Topics will include rhetorical principles (audience and purpose) of communication, visual presentations, research and referencing, figures and graphics, formats of various types of written communications, the writing process, and effective use of language and grammar. The final project for this course will be a proposal for a document that the student will need to write as part of their graduate studies. This can be the final MEng Capstone report, MEng thesis introduction, PhD candidacy report, or other document as discussed with the Instructor.

Course Template

****** New Course ******	**Proposed** **Subject & Number**: ENG M 690 **Title:** Technical Communications for Engineers Course Career: Graduate Units: 3 units Approved Hours: 3-0-0 Fee index: 6 **Faculty:** Engineering **Department:** Mechanical Engineering Typically Offered: Either term **Description:** Students will learn technical communication skills, including an efficient writing process, effective use of language and grammar, research and referencing sources, creating clear figures and graphics, formatting various types of written documents relevant to the engineering profession, effective team communication, and visual/oral presentations.

Reviewed/Approved by:

Approved by MECE Department Council on August 18, 2022
Approved by Faculty of Engineering GPC on September 7, 2022
Approved by Faculty of Engineering APC on September 14, 2022
Approved by Faculty of Engineering ECC on October 25, 2022

Office of the Registrar Code: CCRFC

Course description and justification

1. Calendar description (as above).

ENG M 690 Technical Communications for Engineers

★3 (fi 6) (either term, 3-0-0). Students will learn technical communication skills, including an efficient writing process, effective use of language and grammar, research and referencing sources, creating clear figures and graphics, formatting various types of written documents relevant to the engineering profession, effective team communication, and visual/oral presentations.

2. Course Justification

Technical communications is an essential skill for professional engineers. Currently, the U of A does not offer a graduate-level communications course targeted to engineers. For the past 3 semesters (Spring 2021, Fall 2021, Winter 2022), “Technical Communications” has been offered as an Advanced Topics in Engineering (ENG M 670).

The 150 students who have already taken this course have indicated that the course was extremely useful and has helped them improve their communication skills. As a result, Mechanical Engineering would like this to become a permanent course in the calendar.

This course will cover a number of aspects of technical communication that students will need in their engineering careers. Topics will include rhetorical principles (audience and purpose) of communication, visual presentations, research and referencing, figures and graphics, formats of various types of written communications, the writing process, and effective use of language and grammar. There will be a strong focus on writing clear and concise text that will be understood by the target audience. Common grammar and technical style issues in technical writing will be covered. Plagiarism and copyright issues will be addressed, with emphasis on proper note taking and citing sources.

The final project for this course will be a proposal for a document that the student will need to write as part of their graduate studies. This can be the final MEng Capstone report, MEng thesis introduction/literature review, PhD candidacy report, or other document as discussed with the Instructor. Components of the proposal (outline for the proposed document; annotated reference list) will be completed as assignments and included in the final proposal.

Complementary courses within the University include the following:

CIV E 240 - Technical Communications

Written and oral communications in civil engineering; lectures and practice on presentation of oral and written reports, including technical proposals; progress reports; field inspection reports; consulting reports; and coverage of elements of ethics, equity, concepts of sustainable development and environmental stewardship, public and worker safety and health considerations including the context of the Alberta Occupational Health and Safety Act.

Seminars and practice in developing effective search strategies for technical information. A written report must be submitted by each student.

Note: This is an undergraduate course in Civil Engineering which our graduate students cannot take for credit.

AFNS 660 - Communication in Science

Course designed for graduate students in the early stages of their graduate program. Students will learn effective communication skills for life as a graduate student and a future scientist. Topics will include the scientific method; paper, thesis and grant writing; poster and lecture development and delivery; ethics in science; graduate student supervisor relationships.

Preference given to those in the first year of their program. Prerequisite: consent of instructor.

Note: This course is designed for graduate students in Science and does not cover the aspect of communication relevant to students in Engineering.

3. Learning outcomes

By the end of the course the students should be able to:

- Apply rhetorical principles to written, verbal, audio-visual, and web-based technical communications, including considering the audience and purpose of each communication
- Create professional communication products relevant to the engineering profession, following established formats
- Demonstrate the ability to write in clear, concise, and correct language in a variety of formats
- Demonstrate effective strategies for communication with coworkers and clients, including providing feedback to peers
- Demonstrate the ability to cite and reference sources, determine appropriate uses of information and sources, and understand copyright and plagiarism
- Understand the importance of professional conduct, including appropriate online presence, job search communications, and ethics in the engineering profession

4. Relation between learning outcome and graduate attributes

Not applicable to 600-level course.

5. Text books (if any)

Online sources (most are open source textbooks) will be provided during the course. These are either available freely online or through the U of A library website. Two texts used in the course are:

S. Last, *Technical Writing Essentials*. Victoria, BC: University of Victoria, 2019. [Online]. Available: https://pressbooks.bccampus.ca/technicalwriting/

A. Gross, A, Hamlin, B. Merck, C. Rubio, J. Naas, M. Savage, M. DeSilva, *Technical Writing*. Oregon: Open Oregon Educational Resources, 2019. [Online]. Available: https://openoregon.pressbooks.pub/technicalwriting/chapter/4-1-information-formats/

6. Course outline and schedule

Sequencing of topics is subject to change.

	Topic	Assignment/Quiz
Week 1	Intro to Technical Communications Rhetoric and Plain language	
Week 2	The writing process Library resources Evaluating sources	Annotated Reference List
Week 3	Referencing Plagiarism and copyright	
Week 4	Good paragraphs Concise sentences Process/Product descriptions	Process description
Week 5	Grammar 101 Technical style Proposals	Quiz 1
Week 6	Job search and communications Outlines	Outline for Capstone
Week 7	Clear report formatting and styles Figures and tables	
Week 8	Visual and oral presentations Toastmasters activity	Presentation of process description
Week 9	Team communication Emails/letters/memos	Quiz 2
Week 10	Peer review Reports (various types)	Peer review assignment
Week 11	In-class presentations	
Week 12	Journal articles Abstracts/summaries	Quiz 3
Week 13	Standards Social media (LinkedIn)	

7. Expected and types of assessments and suggested grade weight

Assignments (5)	40%
Quizzes	10%
Participation	10%
Final Project	40%

8. Lab components

None

9. Required resources

None

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Engineer, Mechanical Engineering
Contact Person:	Jason Olfert
Level of change (choose one only) [?]	Graduate
For which term will this change take effect?	Fall 2023

Rationale

"Advanced Engineering Thermodynamics" is taught at the graduate level in almost all Canadian mechanical engineering departments. At one time, our Mechanical Engineering department taught an advanced thermodynamics course (MecE 640); however, it has not been offered for many years because a few key professors left. The course has since been struck from the University calendar.

Here we propose a new graduate-level thermodynamics course. Graduate level courses in this area typically fall in two categories: i) Thermodynamic properties, equilibrium, and reactions or ii) statistical thermodynamics. Our department currently offers MecE 683 and the Chemical Engineering department offers ChE 625 which cover statistical thermodynamics. Furthermore, Chemical Engineering offers a course (ChE 624) which covers phase and chemical equilibria; however, mechanical engineers do not have the background in property relations or multi-component, multi-phase systems which are pre-requisites for ChE 624. Thus, there is a need for a thermodynamics course in the area of thermodynamic properties, equilibrium, and reactions for Mechanical Engineers.

Course Template

****** New Course ******	**Proposed** **Subject & Number:** **MecE 640** **Title:** Advanced Mechanical Engineering Thermodynamics **Course Career:** **Graduate** **Units:** **3** **Approved Hours:** **3-0-0** **Fee index:** **6** **Faculty:** **Engineering** **Department:** **Mechanical Engineering** **Typically Offered:** **Annually** **Description:** Generalization of the first and second laws

	of thermodynamics to multi-component, multi-phase systems. Thermodynamic property relations, thermodynamic potentials, phase and chemical equilibria, reacting mixtures, and activation of reactions with applications in combustion, mixing and separation, power generation, and thermodynamic devices.

Reviewed/Approved by:

Approved by MECE Department Council on June 23, 2022
Approved by Faculty of Engineering GPC on October 5, 2022
Approved by Faculty of Engineering APC on October 12, 2022
Approved by Faculty of Engineering ECC on October 25, 2022

Course description and justification

1. **Calendar description (as above).**

MecE 640 Advanced Engineering Thermodynamics
★3 (fi 6) (either term, 3-0-0). Generalization of the first and second laws of thermodynamics to multi-component, multi-phase systems. Thermodynamic property relations, thermodynamic potentials, phase and chemical equilibria, and reacting mixtures, and activation of reactions with applications in combustion, mixing and separation, power generation, and thermodynamic devices.

2. **Course Justification**

"Advanced Engineering Thermodynamics" is taught at the graduate level in almost all Canadian mechanical engineering departments. At one time, our Mechanical Engineering department taught an advanced thermodynamics course (MecE 640); however, it has not been offered for many years because a few key professors left. The course has since been struck from the University calendar.

Here we propose a new graduate-level thermodynamics course. Graduate level courses in this area typically fall in two categories: i) Thermodynamic properties, equilibrium, and reactions or ii) statistical thermodynamics. Our department currently offers MecE 683 and the Chemical Engineering department offers ChE 625 which cover statistical thermodynamics. Furthermore, Chemical Engineering offers a course (ChE 624) which covers phase and chemical equilibria; however, mechanical engineers do not have the background in property relations or multi-component, multi-phase systems which are pre-requisites for ChE 624. Thus, there is a need for a thermodynamics course in the area of thermodynamic properties, equilibrium, and reactions for Mechanical Engineers with mechanical engineering applications.

Furthermore, the students who take the specialized thermodynamics courses in the Department would greatly benefit by receiving a general treatment of thermodynamics in the proposed course. In particular, the students of MecE 620 (Combustion), MecE 645 (Transport and Kinetic Processes in Electrochemical Systems), and MecE 646 (Interfacial Science and Surface Engineering) would benefit from this course.

Complementary courses within the University include the following:
CHEM 371 - Energetics of Chemical Reactions
A study of the implications of the laws of thermodynamics for transformations of matter including phase changes, chemical reactions, and biological processes. Topics include: thermochemistry; entropy change and spontaneity of processes; activity and chemical potential; chemical and phase equilibria; properties of solutions; simple one- and two-component phase diagrams. The conceptual development of thermodynamic principles from both macroscopic and molecular levels, and the application of these principles to systems of interest to chemists, biochemists, and engineers will be emphasized.

Note: This is an undergraduate course in Chemistry which our graduate students cannot take for credit.

CH E 343 Chemical Engineering Thermodynamics
Thermodynamics of non-ideal gases and liquids, vapor–liquid equilibrium, thermodynamics of chemical processes and multicomponent systems. Prerequisites CH E 243 and CH E 265.

Note: This is an undergraduate course in Chemical Engineering which our graduate students cannot take for credit.

CH E 624 - Advanced Thermodynamics
Principles of thermodynamics; properties of homogeneous fluid phases; phase and chemical equilibria; application to industrial problems.
Note: This a graduate-level course in Chemical Engineering. Although it seems like this course would be similar to the proposed course, the reality is that CHE 343 (or similar) is needed as a pre-requisite before taking this course. In the words of Janet Elliot “Mechanical students would not even be able to take this without taking CHE 343.” Thus, the proposed course is needed to fill the gaps in Mech Eng student’s thermodynamics training in multi-component/multi-phase systems so that they can move on to equilibrium applications.

CH E 625 - Surface and Statistical Thermodynamic
Advanced topics in macroscopic thermodynamics and fundamentals of statistical thermodynamics. Thermodynamics of composite systems including surface thermodynamics and thermodynamics in fields. Introduction to quantum mechanics. Principles of statistical thermodynamics. Construction of partition functions and calculations of basic thermodynamic properties for several fundamental systems. Applications will include properties of ideal gases, ideal solids and adsorbed gases.

Note: This course covers statistical thermodynamics which will not be covered in the proposed course.

MEC E 683 - Statistical Mechanics with Applications
Review of classical mechanics and thermodynamics concepts; introduction to principles of statistical mechanics; concepts of ensembles and ensemble average; probability function and partition function in different ensembles; calculation of thermodynamic quantities from statistical mechanics; applications to polymer elasticity, cell mechanics, fracture mechanics and theories of electrolytic solutions; Monte-Carlo and Molecular Dynamics simulations in different ensembles.

Note: This course covers statistical thermodynamics which will not be covered in the proposed course.

MAT E 640 - Advanced Materials Thermodynamics
Advanced topics in core fundamentals of materials thermodynamics. Thermodynamic laws, statistical thermodynamics, reaction equilibria, phase diagrams, solutions, changing standard states, electrochemistry, and thermodynamics of surfaces.

Note: MAT E 640 and the proposed course only overlap on phase and chemical equilibria. Also, the applications of the courses are very different. The proposed course covers applications in combustion, mixing and separation, power generation, and thermodynamic devices which are not covered in Mat E 640.

Pet E 675 - Advanced Petroleum Engineering Thermodynamics
Thermodynamics and phase equilibrium in pressure-volume-composition relationships in oil and gas mixtures. Thermodynamic concepts and laws, phase equilibrium, various ensembles and the corresponding equilibrium conditions, chemical potentials and fugacity, equilibrium conditions with curved interfaces, phase diagrams of reservoir fluids, equation of state modelling, stability and criticality condition, phase equilibrium computations and Tangent-Plane Distance (TPD) analysis, use of PVT software and analysis of phase behaviour and properties.

Note: MAT E 640 and the proposed course contain similar theory but the applications are very different. The proposed course covers applications in combustion, mixing and separation, power generation, and thermodynamic devices which are not covered in Pet E 675.

3. Learning outcomes

By the end of the course the students should be able to:

-Use Gibbs equation and multivariable calculus to identify thermodynamic potentials, find relations between thermodynamic properties and produce their own property tables
-Determine equilibrium states by maximizing/minimizing appropriate thermodynamic system properties.
-Formulate and apply mass balance, 1st law and 2nd law to inert and reacting mixtures.
-Explain and determine mixing volume, heat of mixing, entropy of mixing, and the chemical potential.
-Determine entropy generation and work loss in mixing.
-Determine the work requirements in desalination, CO2 sequestration and other separation processes; estimate contribution of irreversible processes.
-Determine power available in controlled mixing; apply to osmotic power generation plants.
-Formulate and apply equilibrium conditions for ideal and non-ideal mixtures.
-Draw phase diagrams.
-Explain and evaluate phase diagrams for distillation processes and absorption refrigeration.
-Derive and apply the law of mass action; determine shift of equilibrium state with changing properties (Le Chatelier).
-Use simplified mathematical models to explain metastable states, speed of reactions, and the need for catalysts.

-Use property tables and tables for enthalpy of formation to extract required property values.
-Determine heat of reaction, heat exchange in combustion processes.
-Explain the irreversible process nature of combustion and determine associated work losses.

4. Relation between learning outcome and graduate attributes

Not applicable to 600-level course.

5. Text books (if any)

The topics covered in this course are covered by many graduate level thermodynamics textbooks used in engineering. Below is one book that covers the required material and an electronic version is freely available to University of Alberta students through the library website:

H Struchtrup. *Thermodynamics and Energy Conversion*, Springer, 2014

6. Course outline and schedule

Week #	Topic	Assignment
1	Review: Generalization of 1st and 2nd law	Homework 1
2	Property Relations	Homework 2
3	Thermodynamic Equilibrium I	
4	Thermodynamic Equilibrium II	Homework 3
5	Mixtures	Homework 4
6	Chemical Potential I	Homework 5
7	Chemical Potential II	Midterm Exam
8	Mixing and Separation	Homework 6
9	Phase Equilibrium in Mixtures	Homework 7
10	Reacting Mixtures I	
11	Reacting Mixtures II	Homework 8
12	Activation of Reactions	Homework 9
13	Combustion	Homework 10 Final Exam

7. Expected and types of assessments and suggested grade weight

Assignments (10)	30%
Midterm	20%
Final Exam	50%

8. Lab components

None

9. Required resources

None

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Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Faculty of Engineering, Department of Mechanical Engineering
Contact Person:	Ehsan Hashemi
Level of change (choose one only) [?]	Graduate
For which term will this change take effect?	Winter 2023

Rationale

Autonomous navigation, accurate localization, and motion planning are essential for the control of autonomous robots/vehicles in dynamic environments and safety enhancement in human-robot interaction with direct applications in intelligent transportation and Automated Driving Systems (ADS), service robots, and exploration in remote areas. In this regard, engineering graduate students must be equipped with the fundamental knowledge of state/parameters estimation, vehicle dynamics, state-of-the-art visual- and inertial-based navigation for real-time execution on embedded systems, high-fidelity simulations, and optimal control techniques for ADS.

Thus, this course aims to equip engineering students with inclusive theoretical and hands-on skill sets on the fundamentals of simultaneous localization and mapping, vehicle state/parameter estimation, receding horizon controls, autonomous vehicle dynamics, computationally-efficient (and state-of-the-art) visual/inertial-based navigation (for real-time execution on embedded systems). Therefore, by the end of this course, the students will **i)** Learn multi-model sensing for perception in ADS; **ii)** Design state estimators for vehicles and mobile robots with holonomic/nonholonomic constraints; **iii)** Use different ADS actuation types for tracking and stabilization; **iv)** Learn fundamentals of optimal/predictive control strategies for autonomous vehicle stabilization and trajectory tracking; **v)** Formulate integrated trajectory tracking and lateral/roll stability control and implement constraints of vehicle state variables and actuators' bandwidths; **vi)** Implement state-of-the-art visual localization methods for ADS in dynamic environments under perceptually degraded conditions; and **vii)** Develop optimal stability/tracking control strategies and evaluate them through high-fidelity simulations (e.g., Automated Driving Toolbox and/or ROS-Gazebo).

Moreover, through the concepts and techniques introduced in this course the students would be able to understand the advances and practical challenges due to perceptually degraded conditions and computational burdens in the domain of autonomous navigation. Student will be engaged effectively in designing visual-based navigation algorithms through two independent Assignments (i.e., one on the theory of state estimation and navigation, and one on motion planning and control with algorithm development in MATLAB or Python). Through a final research project, students will develop methodologies systematically for motion planning, control, or state estimation in ADS, and will evaluate their approach (reviewed and approved by the instructor and TAs in 2 stages) through high-fidelity

simulations. The course also provides the opportunity of working with real data sets (i.e., stereo camera, LiDAR, and inertial data) available through open data sets (e.g., KITTI's or NODE lab's data) gathered in various environments with dynamic objects.

Course Template

Current	Proposed
**** New Course *****	**Subject & Number:** MecE 652 **Title:** Autonomous Driving and Navigation **Course Career:** Graduate **Units:** 3 **Approved Hours:** 3-0-0 **Fee index:** 6 **Faculty:** Engineering **Department:** Mechanical Engineering **Typically Offered:** Annually (winter term) **Description:** Introduction to theoretical and technical aspects of robot perception. Topics may include autonomous navigation, accurate localization, state estimation, and motion planning for robot and vehicle applications. Deep learning based visual feature detection and classification, various actuation systems for path tracking and stabilization in autonomous driving, Safety of the Intended Functionality and health monitoring of the control loop in automated driving will also be covered.

Reviewed/Approved by:

Approved by MECE Department Council on October 3, 2022
Approved by Faculty of Engineering GPC on October 5, 2022
Approved by Faculty of Engineering APC on October 12, 2022
Approved by Faculty of Engineering ECC on October 25, 2022

Course Description and Justification:

1. Calendar Description: (as above)

MEC E 652 - Autonomous Driving and Navigation
★3.0 (fi 6) (Winter term, 3-0-0) Introduction to theoretical and technical aspects of robot perception. Topics may include autonomous navigation, accurate localization, state estimation, and motion planning for robot and vehicle applications. Deep learning based visual feature detection and classification, various actuation systems for path tracking and stabilization in autonomous driving, Safety of the Intended Functionality and health monitoring of the control loop in automated driving will also be covered.

2. Course Justification:

The idea of autonomous vehicles and mobile robots sharing our roads and urban areas is slowly becoming a reality due to advances in positioning, sensing technologies, and reliable control systems. Autonomous navigation, accurate localization, and motion planning are essential for the control of autonomous robots/vehicles in dynamic environments and safety enhancement in human-robot interaction with direct applications in intelligent transportation and Automated Driving Systems (ADS), service robots, and exploration in remote areas. In this regard, engineering graduate students must be equipped with the fundamental knowledge of state/parameters estimation, vehicle dynamics, state-of-the-art visual- and inertial-based navigation for real-time execution on embedded systems, high-fidelity simulations, and optimal control techniques for ADS.

This course aims to equip engineering students with inclusive theoretical and hands-on skill sets on the fundamentals of simultaneous localization and mapping, vehicle state/parameter estimation, receding horizon controls, autonomous vehicle dynamics, computationally-efficient (and state-of-the-art) visual/inertial-based navigation (for real-time execution on embedded systems). Therefore, by the end of this course, the students will **i)** Learn multi-model sensing for perception in ADS; **ii)** Design state estimators for vehicles and mobile robots with holonomic/nonholonomic constraints; **iii)** Use different ADS actuation types for tracking and stabilization; **iv)** Learn fundamentals of optimal/predictive control strategies for autonomous vehicle stabilization and trajectory tracking; **v)** Formulate integrated trajectory tracking and lateral/roll stability control and implement constraints of vehicle state variables and actuators' bandwidths; **vi)** Implement state-of-the-art visual localization methods for ADS in dynamic environments under perceptually degraded conditions; and **vii)** Develop optimal stability/tracking control strategies and evaluate them through high-fidelity simulations.

Moreover, through the concepts and techniques introduced in this course the students would be able to understand the advances and practical challenges due to perceptually degraded conditions and computational burdens in the domain of autonomous navigation. Student will be engaged effectively in designing visual-based navigation algorithms through two independent Assignments (i.e., one on the theory of state estimation and navigation, and one on motion planning and control with algorithm development in MATLAB or Python).

Through a final research project, students **will develop methodologies systematically** for motion planning, control, or state estimation in ADS, and will evaluate their approach (reviewed and approved by the instructor and TAs in 2 stages) through high-fidelity simulations. The course also provides the opportunity of working with real data sets (i.e., stereo camera, LiDAR, and inertial data) available through open data sets (e.g., KITTI's or NODE lab's data) gathered in various environments with dynamic objects. Complementary courses within the university include the following:

MEC E 420 – [Feedback Control Design of Dynamic Systems]
MEC E 420 discusses design of linear feedback control systems for error, stability, and dynamic response specifications. Examples emphasizing Mechanical Engineering systems, and some use of computer aided design with MATLAB/Simulink. The following topics that will be covered in the proposed MECE 6xx course are independent from the concepts discussed in MECE 420 and are mostly based on the state-space models that will be introduced in the first lecture of this course: linearization, designing optimal controllers in discrete-time, and using MPC for motion planning.

MEC E 610 – [Machine Learning Control for Engineering Applications]
MEC E 610 focuses on development of control-oriented dynamic models using machine learning techniques. Optimal, adaptive and model predictive control techniques that are solved using methods of machine learning including support vector machines, neural networks, and other methods of machine learning. These topics will compliment the following parts of the proposed MECE 6xx course: learning-based motion planning for autonomous vehicles and predictive/optimal control for stabilization of automated driving systems.

ECE 540 - Detection and Estimation
ECE 540 discussed Bayesian hypothesis testing model, likelihood ratio test (LRT), minimax test, Neyman-Pearson test, receiver operating characteristic (ROC), Bayesian estimation, linear least-squares (LS) estimation; maximum-likelihood (ML) estimation, composite hypothesis testing, introduction to signal detection. Bayesian estimation, LS estimation, and ML estimation will compliment the specific topics (i.e., linear and optimal variance (e.g., KF and UKF) state observer design, and strong detectability analysis) of the proposed course. Moreover, the proposed course utilized main concepts of ML estimation in an applied level for visual-inertial navigation with applications to autonomous robots and vehicles.

ECE 560 – [Modern Control Theory]
ECE 560 introduces state space models, solutions of linear state equations (time-invariant and time-varying systems), controllability and observability, state space realizations, state feedback, state observers, observer-based state feedback control. These topics will compliment the following parts of the proposed MECE 6xx course: robust motion planning, observability analysis (for linear parameter-varying systems), and feedforward control.

ECE 660 – [Optimization in Dynamic Control and Estimation]
ECE 660 discusses mathematical preliminaries (probability and linear systems); Conditions of optimality in dynamic systems (minimum principle, HJB equation); Linear quadratic (LQ) control; Minimum-time control;

Least-squares estimator; Dynamic estimation; Design of various Kalman filters; Design of linear-quadratic Gaussian (LQG) control. These topics will complement the following parts of the MECE 6xx course: optimal variance filter design, stability analysis and performance bounds of the error dynamic, and reliable localization using HD maps, optimal control, and controllability/observability analysis for LTI/LPV systems.

ECE 626 – [Advanced Neural Networks]
ECE 626 focuses on advanced topics in neural networks such as fast backpropagation techniques, including Levenberg-Marquardt and conjugate-gradient algorithms. An in-depth analysis of these techniques is only suitable for students who conduct research in this field. The proposed MECE 6xx course focuses on the fundamentals of spatial/channel attention mechanisms within neural networks and Deep Learning techniques for object detection/classification, as well as feature detection and matching on embedded systems. Thus, complements ECE 626 with computationally-efficient robot perception algorithms with direct applications in autonomous navigation in highly dynamic environments.

CMPUT 466 – [Machine Learning]
CMPUT 466 focuses on the theoretical basis for a range of learning scenarios (supervised, unsupervised, and partially supervised) for classification and regression. Such an approach requires a knowledge background in computer science beyond the common knowledge background of engineering students. The proposed MECE 6xx course introduces instance based learning and deep learning for multi-modal data fusion in an applied level. Furthermore, the proposed contents cover other tools such as uninformed and heuristic search strategies, as well as tightly-coupled data fusion for SLAM and multi-objective optimization, which are necessary tools to address state/parameter estimation and robust control engineering problems, but are not covered in CMPUT 466.

ECE 664 – [Nonlinear Control Design with Applications]
ECE 664 introduces nonlinear observer design methods for multi-input nonlinear systems. Conditions for local and global exact and partial state feedback linearization. Output tracking design using input-output state feedback linearization. Local and global nonlinear observer design using exact error linearization. Output feedback control including output feedback linearization and output feedback stabilization based on normal forms. These concepts presented in ECE 664 course compliment the robust MPC design and input-output feedback linearization (for automated driving systems and mobile robots) topics of the proposed MECE6xx course.

The course content, assignments, and final project are designed to familiarize students (and enhance their in-depth analysis skills) with potential applications of multi-modal perception and computationally-efficient autonomous navigation in various engineering fields including, but not limited to:

- Mechanical Engineering:
    - State/parameter estimation (and error dynamic stability analysis) in thermo-fluid systems with higher-order dynamical systems
    - Nonlinear dynamical models and linearization
    - Adaptive MPC for process control of the systems with various time scales

    - Mobile robot dynamic stabilization robust to model uncertainties
    - Autonomous Agriculture/Farming: localization for mobile equipment
- Electrical and Computer Engineering:
    - Learning model predictive control
    - Real-time application of visual perception
    - Optimal control applied for motion planning on embedded systems
    - Augmented Visual-LiDAR perception for human-robot physical interaction
    - Visual SLAM for UAVs
- Biomedical Engineering:
    - Multi-modal data fusion in wearable sensors for human state estimation
    - LiDAR based human state estimation and occupancy monitoring
    - Autonomous navigation for robotic wheel chairs and mobile assistive devices
- Civil Engineering:
    - Networked vehicle model and their PDE realization for traffic modeling
    - Reliable traffic estimation
    - Resilient distributed traffic control through V2X connectivity
    - Cooperative adaptive cruise control for vehicle platooning

3. Course Objectives:

The primary objectives of this course are to expand graduate students' knowledge, in-depth analysis, and hands-on expertise in motion planning, localization, and robust controls for automated driving systems. Course-specific learning outcomes are as follows:

i) Understanding the fundamentals of robot perception and (visual-inertial) localization, as well as robust motion planning techniques for autonomous driving
ii) Acquiring theoretical and hands-on skills in the implementation of these techniques for autonomous navigation in dynamic environments using real-world multi-modal data and high-fidelity simulations

4. Learning Outcomes:

By the end of the term, the students will be able to:

i) Develop multi-modal data fusion for perception modules in automated driving systems;
ii) Design state estimators for vehicles with nonholonomic constraints;
iii) Select ADS actuation types and strategies for stabilization/tracking, and determine their bandwidths;
iv) Demonstrate a clear understanding of fundamentals of visual localization and use state-of-the-art methods to address challenges due to perceptually degraded conditions and computational

burdens for AVs operating in dynamic environments (i.e., highways and dense urban settings);

v) Formulate integrated trajectory tracking and lateral/roll stability controls and implement kinematic/dynamic constraints of actuators and vehicle state variables;

vi) Use the real discrete-time multi-modal sensory data of an autonomous vehicle (available through open data sets (e.g., KITTI's or NODE lab's data) gathered in different environments with dynamic objects) for real-time localization and motion planning.

vii) Devise optimal stabilization/tracking control strategies in discrete-time and evaluate them through high-fidelity simulators.

viii) Demonstrate teamwork skills through the final project and methodology development and evaluation for the topic of the project

5. Relation Between Learning Outcome and Graduate Attributes

Not applicable to 600-level course.

6. Detailed New Course Outline and Schedule:

The purpose of this course is to teach state-of-the-art autonomous navigation, localization, robust motion planning, and health monitoring topics related to automated driving systems. The tentative schedule is as follows:

Week # Topic

1. Levels of Automated Driving Systems (ADS), introduction to kinematic/dynamic models of vehicles with nonholonomic constraints, and ADS perception and control modules
2. Sensors for autonomous navigation (Stereo/mono cameras, LiDARs, GNSS/INS)
3. Introduction to simultaneous localization and mapping (SLAM); HD maps for localization
4. Vehicle dynamics, tire models, and fundamentals of AVs motion control
5. State estimation: theory and applications to Autonomous Vehicles (AV)
6. Trajectory tracking and stability controls in ADS
7. Constrained optimal controls for to AV's dynamical/kinematic models
8. Motion planning and model predictive control (MPC) robust to model uncertainties
9. System and control loop health monitoring: application to AV
10. Safety of the Intended Functionality (SOTIF) in ADS
11. Connected automated driving systems
12. Final Project Presentation
13. Final Project Presentation (contd.)

7. Course Implementation:

The course has theoretical concepts as well as state-of-the-art practical aspects of perception, autonomous localization, state estimation, robust motion planning, and model predictive controls for automated driving systems. The theoretical aspects of the course will be provided during lectures, while hands-on skills, in-depth analysis, and high-fidelity simulation studies (through on-line videos and simulator training sessions) will provide valuable experience to students for real-time implementation of visual SLAM and optimal control

techniques using real-world multi-modal sensory data. Students would have the option of going through the online material and on-line videos several times while doing their assignments or the final project. These videos are prepared in-house specifically for the course to further support theoretical concepts and enhance the learning experience in the implementation and analysis parts (high fidelity simulations and working with the real-world data).

Text and references:

i) Adaptive Control, by Karl J. Astrom and Bjorn Wittenmark (2nd edition), Dover Publications Inc.
ii) Vehicle Dynamics: Theory and Application, by Reza N. Jazar, 2008.
iii) Predictive Control for Linear and Hybrid Systems, Francesco Borrelli, Alberto Bemporad, Manfred Morari, 2017, Cambridge University Press.
iv) Mur-Artal, Raul, Jose Maria Martinez Montiel, and Juan D. Tardos. "ORB-SLAM: a versatile and accurate monocular SLAM system." IEEE transactions on robotics 31, no. 5 (2015): 1147-1163. Link to the paper: https://ieeexplore.ieee.org/abstract/document/7219438.
v) Woodman, Oliver J. An introduction to inertial navigation. No. UCAM-CL-TR-696. University of Cambridge, Computer Laboratory, 2007. Link to the paper: https://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-696.html?ref=https://githubhelp.com

8. Expected and Types of Assessments and Suggested Grade Weight

As the course content covers state-of-the-art methodologies in the domain of robot perception and autonomous navigation (originally developed for implementation by computers and GPUs), the primary criteria for marking and evaluation of the expected learning outcomes are:

vi) The ability of students in computer programming (e.g., in MATLAB/Python), high-fidelity simulations, and data acquisition in ROS through one assignment and the final research project using real multi-modal sensory data in discrete-time;
vii) The ability of students in reviewing and detailed understanding of existing methodologies thorough literature review on the final project's selected topic; and
viii) Students' technical presentation skills of the selected methodology and results. Therefore, a written midterm/final exam would not be suitable for this course.

Grading

i) Independent assignments – 40% (2 reports; one on the theory of state estimation and navigation, and one on motion planning and control with algorithm development; marking through a rubric/table of specifications)
ii) Final project report – 45% (including literature review submission)
iii) Final project presentation – 15%

9. Additional Staffing, Operating Costs and Space Implementation:

No additional space is required. No additional staff is required. The course provides the opportunity of working with real data sets (i.e., stereo camera, LiDAR, and inertial data) available through open data sets (e.g., KITTI's or NODE lab's data) gathered in various environments with dynamic objects. TA is not required, but the course may get TA(s) based on the class size (e.g., >30 students).

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes
See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Engineer, Mechanical Engineering
Contact Person:	Lindsey Westover
Level of change (choose one only) [?]	Graduate
For which term will this change take effect?	Fall 2023

Rationale

While the study of dynamics and vibrations are a core area in the undergraduate program, there are currently no advanced options or graduate courses that are natural extensions of this fundamental area of mechanical engineering. Former courses, including Mec. E. 655 “Dynamics of Structures”, have not been offered due to faculty changes through retirements. This request is to reinstate a modified version of the Dynamics of Structures course that includes traditional topics including Lagrange’s equation and advanced modal analysis.

Students who have taken an undergraduate program in mechanical engineering (from our program or others) would benefit from this course and find it valuable. It provides a quick refresher of the undergraduate material and goes well beyond the undergraduate content to extend students' knowledge in vibrations and dynamics. Any students working on research related to vibrations or advanced dynamics would find this valuable as well as any student interested in foundational mechanical engineering topics.

There is currently available Civ. E. 661 Dynamics of Structures however this does not have a prerequisite of an undergraduate vibrations course or equivalent. In addition, the focus is structural vibrations for earthquake and wind considerations. The reinstated Mec. E. course would provide exposure to mechanical industrial situations for vibration analysis and control not currently available.

Course Template

****** New Course ******	**Proposed** **Subject & Number: MecE 655** **Title:** Advanced Dynamics and Vibrations **Course Career: Graduate** **Units: 3** **Approved Hours: 3-0-0** **Fee index: 6** **Faculty: Engineering** **Department: Mechanical Engineering** **Typically Offered: Annually** **Description:** Review of free and forced vibrations of single and multi- degree of freedom systems, transient

	vibrations, normal mode analysis, Lagrangian mechanics and approximate methods, continuous systems, transfer matrices and periodic structures

Reviewed/Approved by:

Approved by MECE Department Council on October 3, 2022
Approved by Faculty of Engineering GPC on October 5, 2022
Approved by Faculty of Engineering APC on October 12, 2022
Approved by Faculty of Engineering ECC on October 25, 2022

Course description and justification

1. **Calendar description (as above).**

MecE 655 Advanced Dynamics and Vibrations

★3 (fi 6) (either term, 3-0-0). Review of free and forced vibrations of single and multi- degree of freedom systems, transient vibrations, normal mode analysis, Lagrangian mechanics and approximate methods, continuous systems, transfer matrices and periodic structures

2. **Course Justification**

While the study of dynamics and vibrations are a core area in the undergraduate program, there are currently no advanced options or graduate courses that are natural extensions of this fundamental area of mechanical engineering. Former courses, including Mec. E. 655 “Dynamics of Structures”, have not been offered due to faculty changes through retirements. This request is to reinstate a modified version of the Dynamics of Structures course that includes traditional topics including Lagrange’s equations, advanced modal analysis, axial, torsional and bending vibrations of continuous systems, transfer matrices for multi-degree of freedom and continuous systems, periodic structures

There is currently available Civ. E. 661 Dynamics of Structures however this does not have a prerequisite of an undergraduate vibrations course or equivalent. In addition, the focus is structural vibrations for earthquake and wind considerations. The result of these limitations and differences means that several of the major topics including the use of Lagrange’s equations for linear and non-linear systems, modal analysis for continuous systems as well as the use of transfer matrices for discrete and continuous systems are not covered in CivE 661. The reinstated Mec. E. course would provide exposure to mechanical industrial situations for vibration analysis and control that builds on the foundation in the undergraduate program. Overall, CivE 661 and the proposed MecE 65X overlap in less than 50% of the course content.

There is currently an undergraduate level course MecE 451 Vibrations and Sound that serves as an introductory course to vibrations and acoustics. As this is an undergraduate course, many of the topics in the proposed MecE 65X are not covered. Multiple degree of freedom systems are introduced in MecE 451, but it does not include an in depth coverage of modal analysis using modal coordinates. Similar to the description above, MecE 451 does not include topics such as Lagrange’s equations for linear and non-linear systems, modal analysis for continuous systems as well as the use of transfer matrices for discrete and continuous systems. The proposed MecE 65X is a more advanced course than MecE 451 for mechanical engineering students. Further, MecE 451 is an undergraduate course and cannot be taken for credit by graduate students.

Complementary courses within the University include the following:

CIV E 661 – Dynamics of Structures

Dynamics of single and multiple degree of freedom systems. Time step methods. Modal and response spectrum analysis for earthquake loading. Random vibration analysis. Dynamic wind loading analysis. Dynamics of foundations.

MEC E 451 – Vibrations and Sound

Free and forced vibration of single degree of freedom systems with and without damping, vibration isolation, free vibration of multi degrees of freedom systems, vibration absorption, beam vibrations, sound waves, sound sources, subjective aspects of noise. Prerequisites: MEC E 250 and MATH 300.

3. Learning outcomes

By the end of the course the students should be able to:

-analyze and model multi-degree of freedom system under various dynamic loading conditions
-use Lagrange's equations to formulate linear and non-linear dynamics problems
-determine the response of finite and infinite degree of freedom systems using modal analysis
-develop and use transfer matrices for solution of both finite and continuous mechanical systems

4. Relation between learning outcome and graduate attributes

Not applicable to 600-level course.

5. Text books (if any)

The topics covered in this course are covered by many textbooks used in engineering. However, an electronic set of notes which covers the entire course has been developed and is provided in eclass as well as on the Engineering Open Educational Resources site: https://engcourses-uofa.ca/books/advanced-dynamics-and-vibrations/

6. Course outline and schedule

Week #	Topic	Assignment
1	Review: multi-degree of freedom free and forced vibrations	
2	Review: Transient vibrations and shock spectra	Homework 1
3	Applications of multi-degree of freedom systems – impulse and influence coefficients	
4	Introduction to modal analysis	
5	Analytical Mechanics and Lagrange's equations	Homework 2
6	Applications of Lagrange's equations and Lagrange multipliers	

7	Stability analysis for dynamic systems	Midterm Exam
8	Axial and torsional vibrations for continuous systems	Homework 3
9	Bending vibrations for beams and axial loading	
10	Modal analysis for continuous systems	
11	State vectors and transfer matrices for vibrating systems	Homework 4
12	Periodic structures	
13	Applications of course material to industrial problems	Take Home & Final Exam

7. Expected and types of assessments and suggested grade weight

Assignments (4)	20%
Midterm	20%
Project	20%
Final Exam	40%

8. Lab components

None

9. Required resources

None

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
A course with similar content has been offered to graduate students in the Department since Winter 2018 under the Advanced Topics in Petroleum Engineering course number PETE 694 by Prof. Maeda. There has been relatively strong interest, as demonstrated by student enrollment over the last few years: 7 (winter 2018), 16 (fall 2018), 37 (fall 2019), 7 (fall 2020) and 6 (fall 2021). The course introduces flow assurance in oil and natural gas flowlines and pipelines. The Petroleum Group discussed this calendar change in the fall of 2021 and was supportive.

Current Calendar URL: Not available

Current	Proposed
** NEW COURSE **	**PETE 668 - Flow Assurance** ★ 3(fi 6) (EITHER, 3-0-0) Overview of flow assurance in oil and natural gas flowlines and pipelines. Fundamentals of surfaces and dispersions, nucleation and crystal growth, multiphase flows. Introduction to fast-forming and slowly forming flow assurance risk factors; gas hydrates, demulsification, dehydration, wax deposition, asphaltene precipitation, scale formation, sand erosion, pipeline corrosion, sensing and mitigation strategies. Prerequisite: Consent of instructor.

In which academic year is this change required? **2023-2024**

Department Contact	**Associate Dean Graduate Students CEE/MP**
Name:	**Zaher Hashisho** **Carlos Cruz Noguez**
Email:	hashisho@ualberta.ca cruznogu@ualberta.ca
Department Chair or Designate	

Name:	**Samer Adeeb**		
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: Oct 05, 2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: October 25, 2022			

Course description and justification

1. Calendar description

PET E 668 - Flow Assurance

⋆3 (*fi 6*) (EITHER, 3-0-0).

Overview of flow assurance in oil and natural gas flowlines and pipelines. Fundamentals of surfaces and dispersions, nucleation and crystal growth, multiphase flows. Introduction to fast-forming and slowly-forming flow assurance risk factors; gas hydrates, demulsification, dehydration, wax deposition, asphaltene precipitation, scale formation, sand erosion, pipeline corrosion, sensing and mitigation strategies.

Prerequisite: Consent of instructor

2. Course justification

Justify the creation of the new course, including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.

This course has been offered yearly within the petroleum graduate program as a PET E 694 course since the winter term of 2018. Flow assurance of oil and natural gas pipelines and flow lines is an important topic in upstream oil and gas production that has not been covered by any existing PET E courses.

The initial 20% of the course covers the fundamental knowledge of fluid mechanics and colloids and interfaces that are required for the later contents of the course. Despite the minor overlap, the course instructor will relate these basic topics to Flow Assurance as they are covered. Further, it is not practical to require MEC E 637 and/or CH E 617 as pre-requisite(s) of the proposed PETE 668. Further details follow:

MEC E 637 Colloidal Hydrodynamics: Dr. Maeda contacted the incumbent instructor, Dr. Mohtada Sadrzadeh, who also kindly shared the course syllabus of MEC E 637. MEC E 637 covers colloidal hydrodynamics in porous media and microfluidic devices, and separation technologies such as deep bed filtration, membrane filtration, and chromatography. Both MEC E 637 and PET E 668 cover the basics of colloidal interactions, as does CH E 617 (see below), which is essential to all 3 courses. Other than this overlap, MEC E 637 focuses on hydrodynamics in microscopic scales (porous media and microfluidic devices), whereas PET E 668 focuses on macroscopic scales of oil and natural gas pipelines and flow lines, for which both the Reynolds numbers and the flow patterns are different.

CH E 617 Colloids and Interfaces: I contacted the incumbent instructor, Dr. Hongbo Zeng, who also kindly shared the course syllabus of CH E 617. CH E 617 comprehensively covers the thermodynamics, intermolecular interactions and surface forces in colloidal and biological systems, whereas PET E 668 does not cover biological systems at all. Dispersions (emulsions, bubbles, foams, etc.) are essential to flow assurance (e.g., drill cutting, clays, etc. are all colloids), and PET E 668 covers them in 3 sessions (the session number 3, 4 and 5, see the course outline).

3. Learning outcomes and graduate attributes

Information to complete this section is provided in Appendix*.*

By the end of the course, students should be able to:

1. Name and describe fast- and slowly- forming flow assurance risk factors in oil and gas pipelines

2. Articulate the roles of various types of dispersions that impact the range of flow assurance risk factors in different ways
3. Contrast different modes of nucleation and crystal growth of undesirable phases.
4. Articulate various flow patterns and flow pattern transitions in two-phase flows of liquid and gas and two-phase flows of condensed phases, instabilities that lead to said flow pattern transitions, and modes of accumulation of one phase over the other.
5. Name and describe the contemporary prevention strategies of each major flow assurance risk factor and articulate the compatibility issues involved.
6. Name and describe the contemporary remediation strategies.

4. Relation between learning outcome and graduate attributes

Knowledge base: A
Problem analysis: A
Investigation: A
Communication skills: A

5. Textbooks (if any)

Course notes

6. Course outline and schedule

Scope and objectives of the course;
Flow assurance refers to ensuring a successful and economical flow of hydrocarbon stream from the reservoir to the point of processing. Several factors pose risks to flow assurance; gas hydrate, wax, asphaltenes, scales, sand erosion, pipeline corrosion. Thermal, electrical and chemical prevention and mitigation strategies have been employed to counter these flow assurance risks, with the chemical method the most economical and most widely used. However, the compatibility between the chemical inhibitors and many chemicals in the production fluids has been a major challenge. The course covers the fundamentals of the relevant underlying physical and chemical issues and introduces the state of the art of prevention, mitigation and remediation strategies.

Course timetable (each session corresponds 80 minutes; total of 28 sessions over 14 weeks)
Session 1 Introduction to the course & survey
Session 2 Basic fluid mechanics in flow assurance
Session 3 Surface phenomena in flow assurance
Session 4 Interfacial phenomena in flow assurance
Session 5 Emulsions and Dispersions
Session 6 Nucleation theory – formation of undesirable phases that pose flow assurance risks
Session 7 Nucleation in practice
Session 8 Crystal growth – growth of undesirable phases that pose flow assurance risks
Session 9 Midterm review
Session 10 Midterm exam
Session 11 Flow patterns in Two-phase flows; Liquid & gas
Session 12 Flow patterns in Two-phase flows; Condensed phases
Session 13 Flow assurance risk factors (1); Gas hydrates
Session 14 Flow assurance risk factors (2); Waxes

Session 15 Flow assurance risk factors (3); Asphaltenes
Session 16 Flow assurance risk factors (4); Demulsification
Session 17 Flow assurance risk factors (5); Dehydration
Session 18 Flow assurance risk factors (6); Scales
Session 19 Flow assurance risk factors (7); Sands
Session 20 Flow assurance risk factors (8); Corrosion
Session 21 Flow assurance risk factors (9); Sensing & Remediation
Session 22 Presentation sessions
Session 23 Presentation sessions
Session 24 Presentation sessions
Session 25 Presentation sessions
Session 26 Presentation sessions
Session 27 Final Review
Session 28 Final Exam

7. Expected and types of assessments and suggested grade weight

Mid-term (20%), project (50%), final exam (30%).

8. Lab components

- Describe any lab or seminar component. If there are hands on labs, detail each experiment, equipment, and the required safety documentation, procedures, and assessments.
- Has the course videos from the faculty's development of safety videos and assessments?

N/A

9. Required resources

Describe any necessary resources to create and delivery course on an ongoing basis.
N/A

Relationship to Other Courses Offered at the Graduate Level if any

The initial 20% of the course cover the fundamental knowledge of fluid mechanics and colloids and interfaces that are required for the later contents of the course, which overlap with MECE 637 Colloidal Hydrodynamics and CHE 617 Colloids and Interfaces. Nevertheless, it is not practical to render MECE 637 and/or CHE 617 pre-requisite(s) of this course, as detailed above.

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CALENDAR CHANGE REQUEST FORM

Submission Deadlines:
Two weeks before APC or GPC, subject to faculty approval pathway. Program changes are subject to governance deadlines found here

Department:	**Civil and Environmental Engineering**
Change Request:	**Course Change**

Why is this change being proposed and who was consulted (include dates of faculty and PST reviews below)?
A course with similar content has been offered to graduate students in the Department since Winter 2017 under the Advanced Topics in Petroleum Engineering course number PETE 694 by Prof. Jin. There has been relatively strong interest, as demonstrated by student enrollment over the last few years: 16 (winter 2017), 8 (winter 2018), 16 (fall 2018), 16 (winter 2020) and 16 (winter 2021). The course introduces thermodynamics and phase behaviour modelling in petroleum engineering. The Petroleum Group discussed this calendar change in the fall of 2021 and was supportive.

Current Calendar URL: Not available

Current	Proposed
** NEW COURSE **	**PET E 675 - Advanced Petroleum Engineering Thermodynamics** ★ 3(fi 6) (EITHER, 3-0-0) Thermodynamics and phase equilibrium in pressure-volume-composition relationships in petroleum fluids (oil/gas mixtures). Thermodynamic concepts and laws, phase equilibrium conditions, chemical potentials and fugacity, equilibrium conditions with curved interfaces due to underground capillary effect, phase diagrams of petroleum reservoir fluids, equation of state modelling designed for petroleum fluids, phase equilibrium computations and Tangent-Plane Distance (TPD) analysis, use of PVT software and analysis of petroleum fluid phase behavior and properties. Prerequisite: Consent of instructor.

In which academic year is this change required? 2023-2024

Department Contact	**Associate Dean Graduate Students CEE/MP**
Name:	**Zaher Hashisho** **Carlos Cruz Noguez**

Email:		hashisho@ualberta.ca cruznogu@ualberta.ca	
Department Chair or Designate			
Name:		**Samer Adeeb.**	
Date approved by Department Council:	16-May-2022	**Date submitted:**	05-May-2022
Consultation process and dates ● Faculty of Engineering Academic lead ● Program Support Team committee			
Approval pathway and dates ● Department (APC, GPC, Council): APC: 18-March-2022; GPC: 27-May-2022; Council: 16-May-2022 ● Faculty GPC: Oct 05, 2022 ● Faculty APC: October 12, 2022 ● Faculty ECC: October 25, 2022			

Course description and justification

1. Calendar description

PET E 675 - Advanced Petroleum Engineering Thermodynamics

⋆3 (*fi 6*) (EITHER, 3-0-0).

Thermodynamics and phase equilibrium in pressure-volume-composition relationships in petroleum fluids (oil/gas mixtures). Thermodynamic concepts and laws, phase equilibrium conditions, chemical potentials and fugacity, equilibrium conditions with curved interfaces due to underground capillary effect, phase diagrams of petroleum reservoir fluids, equation of state modelling designed for petroleum fluids, phase equilibrium computations and Tangent-Plane Distance (TPD) analysis, use of PVT software and analysis of petroleum fluid phase behavior and properties.
Prerequisite: Consent of instructor

2. Course justification

Justify the creation of the new course, including (as appropriate) value of the course in terms of content, links to the program, stakeholder input, demand or other information.
This course has been offered yearly within the petroleum graduate program as a PET E 694 course since the 2017 Winter semester. Thermodynamics and phase behaviour modelling of petroleum fluids are important topics in petroleum engineering that the existing courses have not covered.

Here we propose a new graduate-level thermodynamics course. Graduate level courses in this area typically fall in two categories: i) Thermodynamic properties, equilibrium, and reactions or ii) statistical thermodynamics. The Mechanical Engineering department currently offers MecE 683 and the Chemical Engineering department offers ChE 625 which cover statistical thermodynamics. Furthermore, Chemical Engineering offers a course (ChE 624) which covers phase and chemical equilibria; however, CHE 343 (or similar) is needed as a pre-requisite before taking this course, while Pet E students generally do not meet this requirement as they do not take this course during their undergraduate study. In addition, Materials Engineering offers a course (MAT E 640) which covers fundamentals of materials thermodynamics. The newly proposed MEC E 64x covers activation of reactions with applications in combustion, mixing and separation, power generation, and thermodynamic devices. Petroleum engineers need specific thermodynamic courses to cover how petroleum fluids phase behavior (equation of state) modeling is developed and used in practical applications.

Complementary courses within the University include the following:

CH E 343 Chemical Engineering Thermodynamics
Thermodynamics of non-ideal gases and liquids, vapor–liquid equilibrium, thermodynamics of chemical processes and multicomponent systems. Prerequisites CH E 243 and CH E 265.

Note: This is an undergraduate course in Chemical Engineering which our graduate students cannot take for credit.

CH E 624 - Advanced Thermodynamics
Principles of thermodynamics; properties of homogeneous fluid phases; phase and chemical equilibria; application to industrial problems.
Note: This a graduate-level course in Chemical Engineering. Although it seems like this course would be similar to the proposed course, it is designed to general homogeneous fluid phases, which is not specific to the petroleum fluids nor discuss equation of state modeling relevant to petroleum engineering. Furthermore, CHE 343 (or similar) is needed as a pre-requisite before taking this

course, while Pet E students generally do not meet this requirement as they do not take this course during their undergraduate study.

CH E 625 - Surface and Statistical Thermodynamic
Advanced topics in macroscopic thermodynamics and fundamentals of statistical thermodynamics. Thermodynamics of composite systems including surface thermodynamics and thermodynamics in fields. Introduction to quantum mechanics. Principles of statistical thermodynamics. Construction of partition functions and calculations of basic thermodynamic properties for several fundamental systems. Applications will include properties of ideal gases, ideal solids and adsorbed gases.

Note: This course covers statistical thermodynamics which will not be covered in the proposed course.

MEC E 683 - Statistical Mechanics with Applications
Review of classical mechanics and thermodynamics concepts; introduction to principles of statistical mechanics; concepts of ensembles and ensemble average; probability function and partition function in different ensembles; calculation of thermodynamic quantities from statistical mechanics; applications to polymer elasticity, cell mechanics, fracture mechanics and theories of electrolytic solutions; Monte-Carlo and Molecular Dynamics simulations in different ensembles.

Note: This course covers statistical thermodynamics which will not be covered in the proposed course.

MAT E 640 - Advanced Materials Thermodynamics
Advanced topics in core fundamentals of materials thermodynamics. Thermodynamic laws, statistical thermodynamics, reaction equilibria, phase diagrams, solutions, changing standard states, electrochemistry, and thermodynamics of surfaces.

Note: MAT E 640 and the proposed course only overlap on phase and chemical equilibria. Also, the applications of the courses are very different. The proposed course covers applications in equation of state modelling designed for petroleum fluids and the use of PVT software and analysis of petroleum fluid phase behavior and properties which are not covered in Mat E 640.

MEC E 64x - Advanced Mechanical Engineering Thermodynamics
Generalization of the first and second laws of thermodynamics to multi-component, multi-phase systems. Thermodynamic property relations, thermodynamic potentials, phase and chemical equilibria, reacting mixtures, and activation of reactions with applications in combustion, mixing and separation, power generation, and thermodynamic devices.

Note: MEC E 64x and the proposed course contain similar theory but the applications are very different. The proposed course covers applications in equation of state modelling designed for petroleum fluids and the use of PVT software and analysis of petroleum fluid phase behavior and properties which are not covered in MEC E 64x.

3. Learning outcomes and graduate attributes
Information to complete this section is provided in Appendix*.*
By the end of the course, students should be able to:
1. Understand the basic concept of thermodynamics which is the foundation of phase behaviour modelling and other petroleum engineering applications
2. Contrast different thermodynamic conditions which are encountered in petroleum engineering
3. Understand the confinement effect and its implications in petroleum fluid flow and phase behaviour

4. Conduct phase behaviour modelling to obtain petroleum fluid properties at various pressure and temperature conditions.
5. The knowledge from phase behaviour modelling can be applied to on-field decision-making.

4. Relation between learning outcome and graduate attributes

Learning outcomes	**Key and measurable graduate attribute(s)**	**Instructional level**
1. Basic thermodynamics and equilibrium condition, equation of state, phase separation and behaviour modelling concept.	Knowledge base	Applied
2. To learn how to set up the equilibrium condition for phase behaviour modelling.	Problem analysis	Applied
3. To learn how to conduct material balance for constant composition expansion, constant volume depletion, and differential liberation	Problem analysis	Applied
4. To learn how to interpret various thermodynamic quantities, including free energies and their changes, to determine the phase behaviour	Investigation	Applied
5. To learn how to interpret equation of state modelling results to understand phase separations and property changes	Investigation	Applied
2. To practice presentation and report writing skills to effectively convey the knowledge and message to audiences and readers	Communication skills	Applied

5. Text books (if any)
Course notes

6. Course outline and schedule
Scope and objectives of the course;
The course provides fundamentals of phase equilibrium thermodynamics and compositional modelling in petroleum engineering.

- The thermodynamics laws and phase equilibrium conditions (Week 1)
- Energy minimum principle (Week 2)
- Partial molar quantities (Week 3-4)
- Fugacity and activity coefficient (Week 5)
- Equilibrium conditions with curved interfaces due to underground capillary effect (Week 6)
- Principles and applications of equations of state for petroleum fluids (Week 7)
- Phase diagrams for petroleum fluids (Week 8)
- Multiphase flash calculations for petroleum fluids (Week 9)
- Stability and criticality (Week 10)
- Phase equilibrium computations and Tangent-Plane Distance (TPD) analysis (Week 11-12)
- Use of PVT software for petroleum fluids (Week 13)
- Characterization of petroleum fluids using an equation of state-project (Week 14-16)

7. Expected and types of assessments and suggested grade weight
Homework (30%), Quiz (10%), Mid-term (30%) and Project (30%).

8. Lab components

- Describe any lab or seminar component. If there are hands on labs, detail each experiment, equipment, and the required safety documentation, procedures, and assessments.
- Has the course videos from the faculty's development of safety videos and assessments?

N/A

9. Required resources

Describe any necessary resources to create and delivery course on an ongoing basis.
N/A

Relationship to Other Courses Offered at the Graduate Level if any

Other departments have been offering thermodynamic related graduate courses (i.e., CH E 624, CH E 625, MAT 640, etc.). While this proposed course also teaches basic thermodynamic laws and their applications, it is specifically designed for petroleum engineering discipline, in which equation of state modeling of petroleum fluids is essential. The course also offers final project which is tailored for petroleum engineering phase behavior modeling.

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Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Civil and Environmental Engineering
Contact Person:	Zaher Hashisho
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42419

Master of Engineering (Civil and Environmental Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to~~ ~~1. complete~~ ~~FGSR's professional development requirement~~, ~~which includes an individualized career plan document called an Individual~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

~~Development Plan (IDP) and eight hours of professional development activities inspired by their career plan;~~ ~~2. complete professional development requirements specific to the Faculty of Engineering:~~ ~~a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or,~~ ~~b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.~~	

Reviewed/Approved by:

Reviewed by CEE Department Council on September 29 and Department GPC on October 11. Approval by the CEE GPC.
Approved by the Faculty of Engineering GPC on October 5, 2022.
Approved by the Faculty of Engineering APC on October 12, 2022.
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Chemical and Materials Engineering
Contact Person:	Hao Zhang
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42406&returnto=11393

Master of Engineering (Chemical and Materials Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to~~ ~~1. complete FGSR's professional development requirement, which includes an individualized~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

career plan document called an Individual Development Plan (IDP) and eight hours of professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

Approved by the CME Department Council on September 15, 2022
Approved by the Faculty of Engineering GPC on October 5, 2022
Approved by the Faculty of Engineering APC on October 12, 2022
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Electrical and Computer Engineering
Contact Person:	Manisha Gupta
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42539

Master of Engineering (Electrical and Computer Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

Approved by the ECE Graduate Committee September 8, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42674&hl=%22Master+of+Engineering+in+Engineering+Management+%28Mechanical+Engineering%29+%22&returnto=search

Master of Engineering in Engineering Management (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42672&hl=%22Master+of+Engineering+%28Mechanical+Engineering%29%22&returnto=search

Master of Engineering (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Civil and Environmental Engineering
Contact Person:	Zaher Hashisho
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42425

Master of Science (Civil and Environmental Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to~~ ~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

~~Development Plan (IDP) and eight hours of professional development activities inspired by their career plan;~~ ~~2. complete professional development requirements specific to the Faculty of Engineering:~~ ~~a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or,~~ ~~b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.~~	

Reviewed/Approved by:

Reviewed by CEE Department Council on September 29 and Department GPC on October 11. Approval by the CEE GPC.
Approved by the Faculty of Engineering GPC on October 5, 2022.
Approved by the Faculty of Engineering APC on October 12, 2022.
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Chemical and Materials Engineering
Contact Person:	Hao Zhang
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42406&returnto=11393

Master of Science (Chemical and Materials Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to:~~ ~~1. complete FGSR's professional development requirement, which includes an individualized~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

career plan document called an Individual Development Plan (IDP) and eight hours of professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, a. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator	

Reviewed/Approved by:

Approved by the CME Department Council on September 15, 2022
Approved by the Faculty of Engineering GPC on October 5, 2022
Approved by the Faculty of Engineering APC on October 12, 2022
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Electrical and Computer Engineering
Contact Person:	Manisha Gupta
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42536

Master of Science (Electrical and Computer Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

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Reviewed/Approved by:

Approved by the ECE Graduate Committee on September 8, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

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Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42667&hl=%22Master+of+Science+in+Engineering+Management+%28Mechanical+Engineering%29%22&returnto=search

Master of Science in Engineering Management (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

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Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

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Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42663&hl=%22Master+of+Science+%28Mechanical+Engineering%29%22&returnto=search

Master of Science (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

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Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Civil and Environmental Engineering
Contact Person:	Zaher Hashisho
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

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Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42426

Doctor of Philosophy (Civil and Environmental Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to~~ ~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

~~Development Plan (IDP) and eight hours of professional development activities inspired by their career plan;~~ ~~2. complete professional development requirements specific to the Faculty of Engineering:~~ ~~a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or,~~ ~~b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.~~	

Reviewed/Approved by:

Reviewed by CEE Department Council on September 29 and Department GPC on October 11. Approval by the CEE GPC.
Approved by the Faculty of Engineering GPC on October 5, 2022.
Approved by the Faculty of Engineering APC on October 12, 2022.
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Chemical and Materials Engineering
Contact Person:	Hao Zhang
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42405

Doctor of Philosophy (Chemical and Materials Engineering)

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Professional Development Requirement ~~Engineering students are required to:~~ ~~1. complete FGSR's professional development requirement, which includes an individualized~~	Professional Development Requirement Engineering students must complete FGSR's professional development requirement.

career plan document called an Individual Development Plan (IDP) and eight hours of professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, a. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator	

Reviewed/Approved by:

Approved by the CME Department Council on September 15, 2022
Approved by the Faculty of Engineering GPC on October 5, 2022
Approved by the Faculty of Engineering APC on October 12, 2022
Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Electrical and Computer Engineering
Contact Person:	Manisha Gupta
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42543

Doctor of Philosophy (Electrical and Computer Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

Approved by the ECE Graduate Committee on September 8, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42679&hl=%22Doctor+of+Philosophy+in+Engineering+Management+%28Mechanical+Engineering%29%22&returnto=search

Doctor of Philosophy in Engineering Management (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Mechanical Engineering
Contact Person:	Alexandra Komrakova
Level of change: (choose one only)	•
	• Graduate
Type of change request: (check all that apply)	• Program
	•
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Currently, all engineering graduate students are required to complete two separate sets of professional development (PD) requirements: FGSR's professional development requirement (IDP and 8 hours of professional development activities) and requirements specific to the Faculty of Engineering (essentially 4 more hours of PD with associated supporting logistics). Two parallel yet distinct systems of PD requirements place an added burden on engineering graduate students and are extremely difficult to track and monitor (in particular, the additional processes associated with gathering signatures to show compliance are, at best, time-consuming and problematic). We propose that the specific engineering requirements be accommodated within FGSR's mandatory 8 hours, achieving consistency with other professional faculties at the University of Alberta and comparable engineering faculties elsewhere in Canada. The impact on program structure will be minimal and to the benefit of all concerned.

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42676&hl=%22Doctor+of+Philosophy+%28Mechanical+Engineering%29%22&returnto=search

Doctor of Philosophy (Mechanical Engineering)

Current Copy: ~~Removed language~~

Professional Development Requirement

~~Engineering students are required to:~~

~~1. complete FGSR's professional development requirement, which includes an individualized career plan document called an Individual Development Plan (IDP) and eight hours of~~

Proposed Copy: New language

Professional Development Requirement

Engineering students must complete FGSR's professional development requirement.

professional development activities inspired by their career plan; 2. complete professional development requirements specific to the Faculty of Engineering: a. students doing their first graduate degree in the Faculty of Engineering at the University of Alberta are required to complete an ENGG Grad PD 01 module; or, b. students doing their subsequent graduate degree in the Faculty of Engineering at the University of Alberta who have completed ENGG 600 and/or ENGG Grad PD 01 in a previous graduate degree are required to complete four hours of professional development in the areas of communication, networking, EDI, university teaching, and career development. These hours must be included in the student's IDP and approved by their supervisor/advisor and the department graduate coordinator.	

Reviewed/Approved by:

REQUIRED: Approved by the MECE Department Council on October 3, 2022 Approved by the Faculty of Engineering GPC on October 5, 2022 Approved by the Faculty of Engineering APC on October 12, 2022 Approved by the Faculty of Engineering ECC on October 25, 2022

COURSE CHANGE PROPOSAL FORM
Faculty of Kinesiology, Sport, and Recreation

The following is a proposal for a new calendar course listings (for 2023-2024 academic year):

	Course Prefix or Number
X	Course Title
	Hours (weight, term, or hours of instruction)
X	Course Description
	Prerequisite(s)
	Other Information or Notes

Full Course Description as it appears in the current Calendar (including prefix, number, title, hours, description, prerequisites, etc.):	**Proposed Course Description** as it should appear in the Calendar (including prefix, number, title, hours, description, prerequisites, etc.):
~~PAC 110 - Instruction of the Basics of Aquatics ★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of aquatics. Prerequisite: Aquaquest Level 8, or RLSS Lifesaving II, or YMCA Level 3, or Red Cross Level Blue, or the ability to swim front and back crawl efficiently.~~	*********delete*********
~~PAC 111 - Instruction of the Basics of Basketball ★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of basketball.~~	*********delete*********
~~PAC 117 - Instruction of the Basics of Rugby ★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of rugby. Note: Mouth guards recommended.~~	*********delete*********
~~PAC 118 - Instruction of the Basics of Soccer ★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of soccer.~~	*********delete*********
~~PAC 135 - Instruction of the Basics of Tennis ★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of tennis. Note: Students must provide their own racquets, balls, and nonmarking tennis shoes.~~	*********delete*********

~~PAC 145 - Instruction of the Basics of Golf~~
~~★ 3 (fi 6) (Spring/Summer, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of golf. Note 1: Students are responsible for the purchase of golf balls at the practice range. Note 2: Students can rent equipment from the local golf course.~~

*********delete*********

~~PAC 154 - Instruction of the Basics of Wrestling~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of wrestling.~~

*********delete*********

~~PAC 160 - Instruction of the Basics of Gymnastics~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of gymnastics.~~

~~PAC 182 - Instruction of the Basics of Indoor Wall Climbing~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of indoor wall climbing. Note: Equipment is available for rent from Urban Uprising.~~

*********delete*********

~~PAC 183 - Instruction of the Basics of Curling~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in the instruction of the basics of curling.~~

*********delete*********

~~PAC 197 - Selected Topics in Physical Activity - Level I~~
~~★ 3 (fi 6) (either term, 0-3L-0) Note: Topics may vary from year to year.~~

*********delete*********

~~PAC 199 - Directed Studies~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skill in an individual or team activity. Prerequisite: Consent of Faculty. Note: Topics may vary from year to year.~~

*********delete*********

~~PAC 311 - Coaching Basketball~~
~~★ 3 (fi 6) (either term, 0-3L-0) Acquisition of theoretical knowledge and personal skills used in coaching the advanced skills and strategies of basketball. Prerequisite: PAC 111.~~

*********delete*********

~~PAC 355 - The Theory and Practice of Yoga~~
~~★ 3 (fi 6) (either term, 0-3L-0) Emphasis on philosophy, scientific basis and unique yoga approach to fitness and stress management along with practice~~

~~of yoga asanas.~~ *********delete*********

~~PAC 356 - Yoga for Stress Management~~
~~★ 3 (fi 6) (either term, 0-3L-0) The purpose of the course is to: a) develop an understanding of stress, its causes and its effects on the human body; b) to comprehend the principles of yoga practices and their application in managing stress; and c) to learn and practice specific yoga exercises for stress management.~~ *********delete*********

~~PAC 399 - Directed Studies~~
~~★ 3 (fi 6) (either term, 3-0-0) The theory, practice and teaching of the fundamental skills of an individual or team activity. Prerequisite: Consent of Faculty.~~ *********delete*********

~~Highlight and strikethrough~~ ~~removed text on this side~~

Highlight and underline new text on this side

Rationale for the proposed change:

These are course deletions related to the recent restructuring of the activity core. The rationale for this change is to re-envision, update, and modernize the objectives and outcomes for the "Activity Core" requirements with the Faculty of Kinesiology, Sport, and Recreation and associated degree programs (i.e., Bachelor of Kinesiology (BKin) degree program; Bachelor of Kinesiology, Bachelor of Education (BKin/Bed) degrees program) and the associated course offerings to fulfill program requirements.

The proposed change is intended to support the move towards offering a broad, but more holistic and inclusive approach to delivery of the Activity Core through use of current, and already existing movement education KIN course offerings as much as possible, through a more prescribed approach, and moving entirely away from PAC. Redevelopment and restructuring of a select few previously existing PAC courses (e.g., PAC 110, 156) towards alignment with the new Activity Core and KIN course delivery model will occur, while employing 'contexts and environments' of deleted PACs within the delivery of ~3 new KIN courses wherever possible and it makes sense to do so. Currently offered movement education KIN courses, that will be considered as course work for completion of the Activity Core requirement, will also be updated and aligned with the new proposed Activity Core objectives.

This proposed change is intended as well, to assist in program planning and completion by offering a more prescribed, yet flexible course completion schedule for students.

A key and primary intention of this change is also to align the Activity Core requirements, and the associated courses available for completion, into a more logically grouped, foundationally connected, and focused laddering into the core curriculum of the BKin and BKin/Bed programming as a whole. This change will assist considerably in not only driving the updating and modernization of curriculum and course redevelopment, but also in realizing administrative

efficiencies in Activity Core course delivery. Modernization and re-envisioning of movement focused curriculum in the Faculty and across associated programs as a whole, with an eye on sustainability, EDI objectives, and continual quality assurance are key drivers of this proposal.

Approvals

Undergraduate Program Support Team (Undergraduate & Non-Credit): April 29th, August 26th, 2021
KSR Undergraduate Programs Committee: June 2, 2021
KSR Faculty Executive: September 22, 2021
KSR Faculty Council: September 29, 2021

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Kinesiology, Sport, & Recreation (KSR)
Contact Person:	Angela Bayduza, PhD - Associate Dean, Undergraduate Programs
Level of change (choose one only) [?]	• Undergraduate
Type of change request (check all that apply) [?]	• Program (minor)
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	None

Rationale

On the Bachelor of Science in Kinesiology page in the Calendar, under Year 1 this motion proposes reduction of “6 units in 100-level ENGL OR 3 units in ENGL and 3 units in WRS” to “3 units in ENGL OR 3 units in WRS”. One of the primary reasons for this recommended change is intended to increase degree program completion flexibility for students by reducing the prescribed nature of the degree program and assisting students in ease of ability to find courses that have spaces in them for them to register in. Again, enhancing degree program continuation. It has become increasingly more difficult for students to gain access to these ENG and WRS courses. As well, this recommended change is intended to align the ENG/WRS requirements of this program with KSR’s BKin ENG/WRS program requirements.

Under Year 3, "6 units in Open Option" has been duplicated, once as a bullet point and once as letter a. A count of the number of units listed supports this as a duplicate statement. The removal of “a. 6 units in Open Option” is editorial in nature.

Calendar Copy

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=43024

Current	Proposed
Program Requirements Students in the BSc (Kin) Degree take a program of 120 units over a four year period, consisting of: 1. **Degree core:** A group of required courses in Kinesiology totalling 9~~3~~ units 2. **Practicum Component:** (9 units) Part-time or (15 units) Full-time practicum 3. **Option component:** a. Open Options: A group of courses totalling 1~~2~~ units which may be taken from within or outside the Faculty of Kinesiology, Sport,	**Program Requirements** Students in the BSc (Kin) Degree take a program of 120 units over a four year period, consisting of: 1. **Degree core:** A group of required courses in Kinesiology totalling 90 units 2. **Practicum Component:** (9 units) Part-time or (15 units) Full-time practicum 3. **Option component:** a. Open Options: A group of courses totalling 15 units which may be taken from within or outside the Faculty of Kinesiology, Sport,

and Recreation.
b. Faculty Options: 0 units/6 units chosen from courses within the Faculty of Kinesiology, Sport, and Recreation.

Note: Students who choose a 9-unit part-time practicum will do 6 units in Faculty Options; students who choose a 15-unit full-time practicum will not require any additional Faculty Options.

Course Sequence for BSc in Kinesiology

Students are advised to follow the prescribed order as closely as possible.

Year 1 (30 units)

- ~~6 units in 100-level ENGL OR~~ 3 units in ENGL ~~and~~ 3 units in WRS
- CHEM 101 - Introductory University Chemistry I
- HE ED 120 - Introduction to the Biological Aspects of Fitness to Health
- KIN 100 - Human Anatomy
- KIN 101 - Introduction to Human Physiology
- KIN 103 - Integrative Human Physiology
- KRLS 104 - Introduction to Sociology of Sport and Leisure in Canadian Society
- KRLS 105 - Introduction to the Management of Sport, Physical Activity and Recreation Programs

One of:

- KIN 109 - Statistics, Measurement, and Evaluation
- STAT 151 - Introduction to Applied Statistics I

…

Year 3 (30 units)

- BIOCH 200 - Introductory Biochemistry
- KIN 303 - Psychology of Sport and Physical Activity **OR**
- HE ED 321 - Psychological Dimensions of Health Promotion
- KIN 306 - Quantitative Biomechanics of Human Movement
- KIN 311 - Assessment of Fitness and Health
- KIN 334 - Physical Activity, Nutrition and Energy Balance
- KIN 335 - Advanced Conditioning Methodology
- 6 units in Open Option

3-unit List A Faculty Option

and Recreation.
b. Faculty Options: 0 units/6 units chosen from courses within the Faculty of Kinesiology, Sport, and Recreation.

Note: Students who choose a 9-unit part-time practicum will do 6 units in Faculty Options; students who choose a 15-unit full-time practicum will not require any additional Faculty Options.

Course Sequence for BSc in Kinesiology

Students are advised to follow the prescribed order as closely as possible.

Year 1 (30 units)

- 3 units in ENGL OR 3 units in WRS
- CHEM 101 - Introductory University Chemistry I
- HE ED 120 - Introduction to the Biological Aspects of Fitness to Health
- KIN 100 - Human Anatomy
- KIN 101 - Introduction to Human Physiology
- KIN 103 - Integrative Human Physiology
- KRLS 104 - Introduction to Sociology of Sport and Leisure in Canadian Society
- KRLS 105 - Introduction to the Management of Sport, Physical Activity and Recreation Programs

One of:

- KIN 109 - Statistics, Measurement, and Evaluation
- STAT 151 - Introduction to Applied Statistics I
- 3 units in Open Option

…

Year 3 (30 units)

- BIOCH 200 - Introductory Biochemistry
- KIN 303 - Psychology of Sport and Physical Activity **OR**
- HE ED 321 - Psychological Dimensions of Health Promotion
- KIN 306 - Quantitative Biomechanics of Human Movement
- KIN 311 - Assessment of Fitness and Health
- KIN 334 - Physical Activity, Nutrition and Energy Balance
- KIN 335 - Advanced Conditioning Methodology
- 6 units in Open Option

3-unit List A Faculty Option

Students should contact the Student Services Office for detailed information about List A Faculty Options. **3-unit List B Faculty Option**	Students should contact the Student Services Office for detailed information about List A Faculty Options. **3-unit List B Faculty Option**
Students should contact the Student Services Office for detailed information about List B Faculty Options. ~~a. 6 units in Open Option~~ […]	Students should contact the Student Services Office for detailed information about List B Faculty Options. […]

Reviewed/Approved by:

KSR Undergraduate Programs Committee: September 14, 2022
KSR Faculty Executive: September 28, 2022
KSR Faculty Council: October 5, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – Department of Laboratory Medicine & Pathology (LMP)
Contact Person:	Jelena Holovati – jelena.holovati@ualberta.ca
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

The Department of Laboratory Medicine and Pathology (LMP) is proposing six new graduate level courses, LABMP 501, 502, 503, 504, 505, and 506 to support our newly designed course- and practicum-based graduate program leading to a MSc in Laboratory Medicine and Pathology with Specialization in Transfusion Medicine. This program is designed to mirror the structure of our current course-based MSc in LMP with Specialization in Pathologists' Assistant, consisting of two terms of didactic courses followed by a clinical practicum and a scholarly research component in a clinical laboratory setting. The proposed training responds to the critical need for transfusion medicine laboratory specialists, as supported by Alberta Precision Laboratories, Canadian Blood Services, and the Canadian Association of Transfusion Medicine and fits the department mission of leading the development of clinical scientists for meeting the lab medicine challenges of tomorrow. Each course covers the key topics in advanced transfusion medicine laboratory training, such as theory and practice of immunohematology, blood donation, supply and distribution, blood product inventory management in support of specific hematological disorders, and quality management and regulatory systems in a blood bank context.

Also, in responding to the evolution of the laboratory medicine field, low student enrolment, and change in faculty structure, the Department of LMP is proposing removing two graduate level courses from the calendar: LABMP 511 (Cryobiology II) and LABMP 535 (Practical Tools for Scientific Research). The relevant portion of each course's contents has been absorbed by the currently offered LABMP 510 (Cryobiology I) and LABMP 530 (Experimental Design and Scientific Communication).

Course Template

Current	**Proposed**
	LABMP 501 Advanced Immunohematology **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Laboratory Medicine and Pathology **Typically Offered** either term **Description** This course presents advanced level theory and practice in immunohematology as it relates to transfusion medicine. Topics covered include blood group genetics, and classification, immune hemolysis, factors influencing

clinical significance of blood antigen-antibody interactions, as well as investigations and management of perinatal and alloantibodies. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department.

LABMP 502 Immunohematology Techniques

Course Career Graduate
Units 3
Approved Hours 3-0-0
Fee index 6
Faculty Medicine and Dentistry
Department Laboratory Medicine and Pathology
Typically Offered either term

Description
This course presents advanced level immunohematology methods as they relate to transfusion medicine. Topics covered include blood cell genotyping methods, the development of monoclonal reagents and solid-phase and microcolumn platforms for performing the pre-transfusion tests, cellular, serology and microarray and other techniques for *in vitro* measurements of the antigen-antibody reactions. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department. Implementation: 2023/2024

LABMP 503 Blood Supply and Distribution I

Course Career Graduate
Units 3
Approved Hours 3-0-0
Fee index 6

Faculty Medicine and Dentistry
Department Laboratory Medicine and Pathology
Typically Offered either term

Description
This course covers topics from blood donation to transfusion, including the management of collection, production, testing, storage, and distribution of components and products for routine transfusion. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department.

LABMP 504 Blood Supply and Distribution II

Course Career Graduate
Units 3
Approved Hours 3-0-0
Fee index 6
Faculty Medicine and Dentistry
Department Laboratory Medicine and Pathology
Typically Offered either term

Description
This course covers topics from blood donation to transfusion, including the management of collection, production, testing, storage, and distribution of blood components and products for transfusion in special clinical indications, including stem cell and solid organ transplant. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department. Prerequisites: LABMP 503.

LABMP 505 Advanced Transfusion Support

Course Career Graduate
Units 3
Approved Hours 3-0-0
Fee index 6
Faculty Medicine and Dentistry
Department Laboratory Medicine and Pathology
Typically Offered either term

Description
This course covers theory of specific clinical disorders requiring advanced transfusion knowledge. Topics include the management of hematological disorders, transplantation, perinatal and massive transfusion support. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department. Prerequisites: LABMP 501 and LABMP 502.

LABMP 506 Clinical Laboratory Operations and Quality Management Systems

Course Career Graduate
Units 3
Approved Hours 3-0-0
Fee index 6
Faculty Medicine and Dentistry
Department Laboratory Medicine and Pathology
Typically Offered either term

Description
This course covers topics related to the Quality Systems Essentials as they apply to the management of a transfusion service and blood supplier. In addition, topics in laboratory management including personnel, laboratory information systems and equipment as well as method validation and proficiency testing will be reviewed. Course content will be delivered through lectures, seminars and workshops as well as directed reading, and will include a clinical practicum at an approved clinical transfusion service laboratory and/or a portfolio of work experiences. This course is designed primarily for students enrolled in the Specialization in Transfusion Science program, or by permission from the Department.

LABMP 511 - Cryobiology II

Course Career Graduate
Units 3
Approved Hours 2-1S-0
Fee Index 6
Faculty Medicine and Dentistry
Department Lab Medicine and Pathology
Typically Offered second term

Description
Freeze-thaw responses of enzyme systems, individual cells and organized tissues. Preservation of spermatozoa, blood and bone marrow cells, embryos and various tissues. Approaches to the cryopreservation of organs and whole organisms. Applications in medicine and agriculture. Prerequisite: consent of Department. This course may not be taken for credit if credit has already been received in PATH 511.

...

LABMP 535 - Practical Tools for Scientific Research

Course Career Graduate
Units 3
Approved Hours 0-3S-0
Fee Index 6
Faculty Medicine and Dentistry
Department Lab Medicine and Pathology
Typically Offered second term

Description
This course utilizes a workshop format designed to develop the skills of graduate students and clinical residents in scientific writing (i.e. literature reviews, manuscripts, grant applications), research budget planning, developing effective collaborations, intellectual property and technology transfer. An overview of the safety requirements WHMIS, radiation safety, and biological hazards) in order to conduct scientific research. Students will learn how to prepare an ethics application for the use of animals and humans in research. Guest speakers from academia, government and industry are featured. Open to graduate students and clinical residents in the Faculty of Medicine and Dentistry. Students from other faculties may register with consent of

~~the instructors.~~	

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – August 31, 2022 FoMD Faculty Council (for information/suggestions/challenges) – September 16, 2022
Other consultation groups, departments, or internal faculty approving bodies and approval dates. LMP Curriculum and Competency Committee April 12, 2022 LMP Graduate Studies Committee August 5, 2022 FoMD Graduate Programs Committee (GPC) – October 25, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	FoMD - Dentistry
Contact Person:	Deniz Organ (dentgrad@ualberta.ca)
Level of change: (choose one only) [?]	• Undergraduate
	• Graduate
For which term will this change take effect?	Fall 2023

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Despite its importance, behavioral change is not sufficiently covered in health professions curricula by professionally trained behavioral scientists and instructors. The European Journal of Dental Education recently accepted a manuscript describing the outline of the course.

Course Template

Current: ~~Removed language~~	**Proposed:** New language
NEW COURSE	**INT D 542 - Behavioural Change in Health Sciences** **Course Career** Graduate **Units** 1 **Approved Hours** 1-0-0 **Fee index** 2 **Faculty** Medicine and Dentistry **Department** Dentistry **Typically Offered** either term **Description** Basic, clinical, and behavioural sciences are the three main components of health professions education. A key goal of the behavioral science curriculum is to provide students with conceptual and practical tools to facilitate behavioural changes. The objectives of this course are twofold: *(i)* discuss and practice a systematic approach to facilitate behavioral change and *(ii)* improve knowledge and skills in behavioural research. The course will be organized according to the main phases of this approach: *(1)* identifying a health issue caused by behavioural factors, *(2)* defining a target behaviour, *(3)* understanding the target behaviour using pertinent theories, *(4)* identifying behavioural determinants through generating reliable evidence, *(5)* selecting and applying behavioural change techniques, and *(6)* evaluating the impact of the behavioural intervention. Short presentations, in-preparation readings, and active learning strategies will be used to deliver the course.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 21, 2022 FoMD Faculty Council (for information/suggestions/challenges) – November 4, 2022
Approved by: Graduate Studies Committee for approval - August 31, 2021 - Approved Dentistry Department Council for approval - September 13, 2021 - Approved FoMD Graduate Program Committee (GPC) - September 12, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – *Radiology & Diagnostic Imaging*
Contact Person:	Lawrence Le lel@ualberta.ca
Level of change: (choose one only) [?]	• Undergraduate
	• Graduate
For which term will this change take effect?	Fall 2023

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

The professor wanted to add language that is more updated to the content that is being covered in this course. In particular, adding words that potential new students would put in the search bar such as Machine Learning and Medical Image Analysis.

Course Template

Current: ~~Removed language~~	**Proposed:** New language
RADDI 514 - Image Processing and Analysis in Diagnostic Imaging **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Radiology & Diagnostic Imag **Typically Offered** either term **Description** The course aims to cover medical image processing and analysis techniques, including de-noising, registration, segmentation, 3D reconstruction, applicable in diagnostic imaging modalities such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI). Clinical examples in cardiovascular, musculoskeletal, and brain imaging will be discussed. Prerequisite: Linear algebra and knowledge in ~~MATLAB~~ programming or consent of the Department.	**RADDI 514 - Image Processing and Analysis in Diagnostic Imaging** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Radiology & Diagnostic Imag **Typically Offered** either term **Description** The course aims to cover medical image processing and analysis techniques, including de-noising, registration, segmentation, and 3D reconstruction, applicable in diagnostic imaging modalities such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI). The course will also cover machine learning topics related to medical image analysis. Clinical examples in cardiovascular, musculoskeletal, and brain imaging will be discussed. Prerequisite: Linear algebra and knowledge in Python programming language or consent of the Department.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 21, 2022 FoMD Faculty Council (for information/suggestions/challenges) – November 4, 2022
Approved by: FoMD Graduate Programs Committee (GPC) – Sept 12, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	FOMD>LMP>MLS
Contact Person:	Roberta Martindale ram7@ualberta.ca Secondary: Kim Thompson kathomps@ualberta.ca
Level of change: (choose one only)	• Undergraduate [X]
	• Graduate
Type of change request: (check all that apply)	• Program [X]
	• Regulation
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

A final year course option has not been offered since 2018 and is therefore not useful to list in our course options for that year. (This is in addition to a calendar wording change to this section previously submitted and approved for the 2023-24 calendar)

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42787&returnto=11337

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Year 4 • MLSCI 410 - Introduction to Clinical Laboratory Management • MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease • Arts option (3 units) 15 units chosen from • Approved MLS option (3 units) (See note 2) • MLSCI 420 - Emerging Trends in Medical Laboratory Science	Year 4 • MLSCI 410 - Introduction to Clinical Laboratory Management • MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease • Arts option (3 units) 15 units chosen from • Approved MLS option (3 units) (See note 2) • MLSCI 420 - Emerging Trends in Medical Laboratory Science

• MLSCI 430 - Advanced Hematology • MLSCI 460 - Clinical Biochemistry • MLSCI 466 - Applied Toxicology • MLSCI 470 - Diagnostic and Public Health Microbiology Laboratories • MLSCI 475 - Clinical Immunology • MLSCI 481 - Techniques in Molecular Biology • ~~MMI 405 - Advanced Microbial Pathogenicity~~ ~~**OR**~~ • MMI 415 - Advanced Viral Pathogenesis **OR** • MMI 426 - Medical Parasitology	• MLSCI 430 - Advanced Hematology • MLSCI 460 - Clinical Biochemistry • MLSCI 466 - Applied Toxicology • MLSCI 470 - Diagnostic and Public Health Microbiology Laboratories • MLSCI 475 - Clinical Immunology • MLSCI 481 - Techniques in Molecular Biology • MMI 415 - Advanced Viral Pathogenesis **OR** • MMI 426 - Medical Parasitology
Research Project Requirement 6 units from: (See note 3) • MLSCI 491 - Research Project • **OR** • MLSCI 409 - Research Project **AND** a 3-unit Science option	Research Project Requirement 6 units from: (See note 3) • MLSCI 491 - Research Project • **OR** • MLSCI 409 - Research Project **AND** a 3-unit Science option
Notes 1. During the Year Three clinical rotation, students are assigned to hospital laboratories approved for this purpose by the Council of the Faculty of Medicine and Dentistry. 2. Transfer credit may be considered for a second MLS option in Year 4. Contact the division for more information. 3. 3 units in a Science option are required if a 3-unit project is completed. 0 units in a science option are required if a 6-unit project is completed.	Notes 1. During the Year Three clinical rotation, students are assigned to hospital laboratories approved for this purpose by the Council of the Faculty of Medicine and Dentistry. 2. Transfer credit may be considered for a second MLS option in Year 4. Contact the division for more information. 3. 3 units in a Science option are required if a 3-unit project is completed. 0 units in a science option are required if a 6-unit project is completed.
Advanced Laboratory Courses The Medical Laboratory Sciences division offers advanced laboratory courses for students who want to further develop their laboratory skills. These 1-unit courses can be taken extra to degree. Contact the division for more information. • MLSCI 435 - Advanced Flow Cytometry • MLSCI 461 - Advanced Mass Spectrometry	Advanced Laboratory Courses The Medical Laboratory Sciences division offers advanced laboratory courses for students who want to further develop their laboratory skills. These 1-unit courses can be taken extra to degree. Contact the division for more information. • MLSCI 435 - Advanced Flow Cytometry • MLSCI 461 - Advanced Mass Spectrometry

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022

FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
OPTIONAL: Other internal faculty approving bodies, consultation groups, or departments, and approval dates.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Faculty of Medicine and Dentistry Department of Laboratory Medicine and Pathology Division of Medical Laboratory Science
Contact Person:	Primary: Roberta Martindale Ram7@ualberta.ca Alternate: Kim Thompson kathomps@ualberta.ca
Level of change (choose one only) [?]	Undergraduate [x] Graduate
Type of change request (check all that apply) [?]	Program Regulation [x]
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A

Rationale

The program is changing the deadline for the submission of the Letter of Intent, a component of the admission process.

Calendar Copy

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/content.php?catoid=36&navoid=11300#bsc_in_medical_laboratory_science

Current	**Proposed**
~~Removed language~~	New language
Other Requirements 1. Selection Process: A minimum GPA of 2.7 is required in preprofessional coursework. The selection process is competitive, and applicants will be ranked primarily on academic achievement in the required preprofessional courses. Other factors considered in ranking include overall academic achievement (emphasizing recent academic performance), a demonstrated ability to perform well in a consecutive Fall/Winter Term of fulltime study (preferably 30 units), a personal interview, and a letter of intent. 2. Language Proficiency Requirements: All applicants must meet the English Language Proficiency and Spoken English requirements (see Language Proficiency Requirements).	Other Requirements 1. Selection Process: A minimum GPA of 2.7 is required in preprofessional coursework. The selection process is competitive, and applicants will be ranked primarily on academic achievement in the required preprofessional courses. Other factors considered in ranking include overall academic achievement (emphasizing recent academic performance), a demonstrated ability to perform well in a consecutive Fall/Winter Term of fulltime study (preferably 30 units), a personal interview, and a letter of intent. 2. Language Proficiency Requirements: All applicants must meet the English Language Proficiency and Spoken English requirements (see Language Proficiency Requirements).

3. Letter of Intent: Applicants must submit a letter with their application for admission stating their career goals, knowledge of the profession, related experience, and reasons for seeking admission to Medical Laboratory Science. Prospective students are encouraged to investigate the career to assist in their understanding of the program. 4. Personal Interview: Interview selection is based on postsecondary academic records and a letter of intent received by ~~April 1~~ [see Faculty of Medicine and Dentistry Admission Deadlines]. Selected applicants will be interviewed to determine if they have the qualities necessary for the profession. The interview is mandatory and will evaluate qualities such as communication, teamwork, reflection, conflict resolution, empathy, responsibility, initiative, problem-solving ability, prioritization and organization. Short-listed applicants will be advised of the interview date.	3. Letter of Intent: Applicants must submit a letter with their application for admission stating their career goals, knowledge of the profession, related experience, and reasons for seeking admission to Medical Laboratory Science. Prospective students are encouraged to investigate the career to assist in their understanding of the program. 4. Personal Interview: Interview selection is based on postsecondary academic records and a letter of intent received by May 1 [see Faculty of Medicine and Dentistry Admission Deadlines]. Selected applicants will be interviewed to determine if they have the qualities necessary for the profession. The interview is mandatory and will evaluate qualities such as communication, teamwork, reflection, conflict resolution, empathy, responsibility, initiative, problem-solving ability, prioritization and organization. Short-listed applicants will be advised of the interview date.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Other consultation groups, departments, or internal faculty approving bodies and approval dates.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Faculty of Medicine and Dentistry Department of Laboratory Medicine and Pathology Division of Medical Laboratory Science
Contact Person:	Primary: Roberta Martindale Ram7@ualberta.ca Alternate: Kim Thompson kathomps@ualberta.ca
Level of change (choose one only) [?]	Undergraduate [x] Graduate
Type of change request (check all that apply) [?]	Program Regulation [x]
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A

Rationale

The program is changing the deadline for the submission of the Letter of Intent, a component of the admission process.

Calendar Copy

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/content.php?catoid=36&navoid=11384#application-for-admission
(table that appears when you click on Deadlines by Faculty>Faculty of Medicine and Dentistry)
Also https://calendar.ualberta.ca/content.php?catoid=36&navoid=11319
(This is the same table but as its own page when accessed on through Faculty of Medicine and Dentistry Admission Requirements)

Current

~~Removed language~~

BSc in Medical Laboratory Science					
Fall Term	March 1	June 15	March 1	June 15	Letter of intent ~~April 1~~ (see BSc in Medical Laboratory Science)

Proposed

New language

BSc in Medical Laboratory Science					
Fall Term	March 1	June 15	March 1	June 15	Letter of intent May 1 (see BSc in Medical Laboratory Science)

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Other consultation groups, departments, or internal faculty approving bodies and approval dates.

UNIVERSITY OF ALBERTA

Calendar Change Request Form
for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	FOMD>LMP>MLS
Contact Person:	Roberta Martindale ram7@ualberta.ca Secondary: Kim Thompson kathomps@ualberta.ca
Level of change: (choose one only)	• Undergraduate [X]
	• Graduate
Type of change request: (check all that apply)	• Program [X]
	• Regulation
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	N/A

Rationale

Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders

Changes to the Bachelor of Science in Medical Laboratory Science Post-Professional Certification degree completion:
Removal of MMI 405: A final year course option has not been offered since 2018 and is therefore not useful to list in our course options for that year.
Addition of advanced lab courses section: to mirror changes made to basic program for 2023-24 calendar

Calendar Copy

URL in current Calendar (or "New page")
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42926&returnto=11337

Current Copy: ~~Removed language~~	**Proposed Copy:** New language
Bachelor of Science in Medical Laboratory Science Post-Professional Certification degree completion **[…]** **Year 2**	**Bachelor of Science in Medical Laboratory Science Post-Professional Certification degree completion** **[…]** **Year 2**

• MLSCI 410 - Introduction to Clinical Laboratory Management • MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease • Approved MLS options (9 units) 12 units chosen from • MLSCI 420 - Emerging Trends in Medical Laboratory Science • MLSCI 430 - Advanced Hematology • ~~MLSCI 435 - Advanced Flow Cytometry~~ • MLSCI 460 - Clinical Biochemistry • ~~MLSCI 461 - Advanced Mass Spectrometry~~ • MLSCI 466 - Applied Toxicology • MLSCI 470 - Diagnostic and Public Health Microbiology Laboratories • MLSCI 475 - Clinical Immunology • MLSCI 481 - Techniques in Molecular Biology • ~~MMI 405 - Advanced Microbial Pathogenicity OR~~ • MMI 415 - Advanced Viral Pathogenesis OR • MMI 426 - Medical Parasitology Research Project Requirement 6 units from: • MLSCI 491 - Research Project **OR** • MLSCI 409 - Research Project AND a 3-unit Science option Note 3 units in a Science option are required if a 3-unit project is completed. 0 units in a science option are required if a 6-unit project is completed.	• MLSCI 410 - Introduction to Clinical Laboratory Management • MLSCI 480 - Molecular Genetic Approaches to the Study and Diagnosis of Disease • Approved MLS options (9 units) 12 units chosen from • MLSCI 420 - Emerging Trends in Medical Laboratory Science • MLSCI 430 - Advanced Hematology • MLSCI 460 - Clinical Biochemistry • MLSCI 466 - Applied Toxicology • MLSCI 470 - Diagnostic and Public Health Microbiology Laboratories • MLSCI 475 - Clinical Immunology • MLSCI 481 - Techniques in Molecular Biology • MMI 415 - Advanced Viral Pathogenesis OR • MMI 426 - Medical Parasitology Research Project Requirement 6 units from: • MLSCI 491 - Research Project **OR** • MLSCI 409 - Research Project AND a 3-unit Science option Note 3 units in a Science option are required if a 3-unit project is completed. 0 units in a science option are required if a 6-unit project is completed. Advanced Laboratory Courses The Medical Laboratory Sciences division offers advanced laboratory courses for students who want to further develop their laboratory skills. These 1-unit courses can be taken extra to degree. Contact the division for more information. • MLSCI 435 - Advanced Flow Cytometry • MLSCI 461 - Advanced Mass Spectrometry

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
OPTIONAL: Other internal faculty approving bodies, consultation groups, or departments, and approval dates.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Dental Hygiene, School of Dentistry, FoMD	
Contact Person:	Meghan Rannells (dhyg@ualberta.ca)	
Level of change (choose one only)	✔	Undergraduate
	•	Graduate
Type of change request (check all that apply)	✔	Program
	✔	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes	

Rationale

BIOCH 200 Removal from DH Program:
This 3-credit course is being replaced with OBIOL 203 Survey of Biochemistry which is a 2-credit course that will introduce the general biochemical concepts that are the basis of life. The decrease from three to two credits in the study of biochemistry aligns more appropriately to provide foundational learning for the study of dental hygiene sciences.

D HYG 390 & 490 Additions to DH Program/Removal of 3 Credit Option Course:
The required 3 credit option course at the 300 or 400 level is being removed and replaced with D HYG 390 Introduction to Research (1 credit) and D HYG 490 Evidence Informed Dental Hygiene practice (2 credits). A comprehensive curriculum reviewed identified a gap in content in this area and the need for this content for dental hygiene practice. Additionally, the requirement for the option course created challenges for students to find a 300/400 level course when they didn't have the lower level 100/200 prerequisites to enroll in a higher level course. Lastly, the students had many challenges finding a time in their schedule to take an option course as they have a rigidly structured and packed time table with their dental hygiene studies.

Program-specific Deposits on Confirmation of Admission Change:
There is no longer a Dental Hygiene Diploma Program offered. Out of date wording.

Calendar Copy

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42785&returnto=11337

Bachelor of Science in Dental Hygiene **General Information** **Course Requirements** The numbers following a course name indicate either the number of weeks assigned to the course or the number of hours spent in lectures, clinics and laboratories. Bachelor of Science (Dental Hygiene) (one preprofessional year plus) Year 2 ~~BIOCH 200 - Introductory Biochemistry~~ D HYG 200 - Fundamentals of Human Anatomy and Physiology for the Dental Hygienist D HYG 240 - Oral Radiology I D HYG 251 - Anatomical Structures for Dental Hygiene Practice D HYG 255 - Oral Health Sciences I D HYG 256 - Oral Health Sciences II D HYG 260 - Dental Hygiene Theory and Practice II D HYG 270 - Behavioural Sciences I D HYG 299 - Dental Hygiene Collaborative Practice I MMI 133 - Medical Microbiology for Health Care Professionals OBIOL 202 - Oral Biology I	**Bachelor of Science in Dental Hygiene** **General Information** **Course Requirements** The numbers following a course name indicate either the number of weeks assigned to the course or the number of hours spent in lectures, clinics and laboratories. Bachelor of Science (Dental Hygiene) (one preprofessional year plus) Year 2 D HYG 200 - Fundamentals of Human Anatomy and Physiology for the Dental Hygienist D HYG 240 - Oral Radiology I D HYG 251 - Anatomical Structures for Dental Hygiene Practice D HYG 255 - Oral Health Sciences I D HYG 256 - Oral Health Sciences II D HYG 260 - Dental Hygiene Theory and Practice II D HYG 270 - Behavioural Sciences I D HYG 299 - Dental Hygiene Collaborative Practice I MMI 133 - Medical Microbiology for Health Care Professionals OBIOL 202 - Oral Biology I OBIOL 203 - Survey of Biochemistry
Bachelor of Science (Dental Hygiene) Year 3 Year 3 D HYG 340 - Oral Radiology II D HYG 355 - Oral Health Sciences III D HYG 356 - Oral Health Sciences IV D HYG 360 - Dental Hygiene Theory and Practice III D HYG 370 - Behavioural Sciences II D HYG 399 - Dental Hygiene Collaborative Practice II OBIOL 302 - Oral Biology II OBIOL 305 - Pathology PMCOL 300 - Introduction to Pharmacology	Bachelor of Science (Dental Hygiene) Year 3 Year 3 D HYG 340 - Oral Radiology II D HYG 355 - Oral Health Sciences III D HYG 356 - Oral Health Sciences IV D HYG 360 - Dental Hygiene Theory and Practice III D HYG 370 - Behavioural Sciences II D HYG 390- Introduction to Research D HYG 399 - Dental Hygiene Collaborative Practice II OBIOL 302 - Oral Biology II OBIOL 305 - Pathology PMCOL 300 - Introduction to Pharmacology
Bachelor of Science (Dental Hygiene) Year 4 Year 4 D HYG 429 - External Rotation D HYG 455 - Oral Health Sciences V D HYG 456 - Oral Health Sciences VI D HYG 460 - Dental Hygiene Theory and Practice IV D HYG 470 - Behavioural Sciences III D HYG 480 - Behavioural Sciences IV D HYG 499 - Dental Hygiene Collaborative Practice III ~~One Option (3 units)~~	Bachelor of Science (Dental Hygiene) Year 4 Year 4 D HYG 429 - External Rotation D HYG 455 - Oral Health Sciences V D HYG 456 - Oral Health Sciences VI D HYG 460 - Dental Hygiene Theory and Practice IV D HYG 470 - Behavioural Sciences III D HYG 480 - Behavioural Sciences IV D HYG 490- Evidence Informed Dental Hygiene Practice D HYG 499 - Dental Hygiene Collaborative Practice III

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/content.php?catoid=36&navoid=11384#application-for-readmission-or-internal-transfer:~:text=Programs%20website.-,Program%2Dspecific%20 Deposits%20on%20Confirmation%20of%20Admission,-Upon%20notification%20of

Program-specific Deposits on Confirmation of Admission Upon notification of admission, successful applicants to certain programs listed below must confirm their admission and intention to register by submitting a nonrefundable program-specific deposit within the time specified in the letter of acceptance. The deposit will be credited toward payment of tuition upon completion of registration. Should a candidate withdraw after accepting a position or not meet specified conditions as stated in the offer of admission, this deposit is forfeited. The following undergraduate programs require a deposit: Doctor of Dental Surgery (DDS) DDS Advanced Placement ~~Diploma in Dental Hygiene~~ Juris Doctor (JD) Doctor of Medicine (MD) Doctor of Pharmacy (PharmD) Doctor of Pharmacy (PharmD) for Practicing Pharmacists Bachelor of Science in Medical Laboratory Science Bachelor of Science in Pharmacy Bachelor of Science in Radiation Therapy Applicants should contact specific Faculties for more information about program-specific deposits, including specific amounts. (See Tuition Deposit)	**Program-specific Deposits on Confirmation of Admission** Upon notification of admission, successful applicants to certain programs listed below must confirm their admission and intention to register by submitting a nonrefundable program-specific deposit within the time specified in the letter of acceptance. The deposit will be credited toward payment of tuition upon completion of registration. Should a candidate withdraw after accepting a position or not meet specified conditions as stated in the offer of admission, this deposit is forfeited. The following undergraduate programs require a deposit: Doctor of Dental Surgery (DDS) DDS Advanced Placement Bachelor of Science (Dental Hygiene) Juris Doctor (JD) Doctor of Medicine (MD) Doctor of Pharmacy (PharmD) Doctor of Pharmacy (PharmD) for Practicing Pharmacists Bachelor of Science in Medical Laboratory Science Bachelor of Science in Pharmacy Bachelor of Science in Radiation Therapy Applicants should contact specific Faculties for more information about program-specific deposits, including specific amounts. (See Tuition Deposit)

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – August 2, 2022 FoMD Faculty Council (for information/suggestions/challenges) – August 25, 2022
Other consultation groups, departments, or internal faculty approving bodies and approval dates.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – Biochemistry
Contact Person:	David Stuart
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	ASAP

Rationale

- *This change is required as the previously required prerequisite courses BIOCH 203 and BIOCH 205 are no longer offered. The change also updates the course content description to more accurately reflect the current course content.*

Course Template

Current	**Proposed**
BIOCH 530 **Biochemistry of Eukaryotic Gene Expression** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** ~~The organization and expression at the molecular level of information encoded in the nucleic acids of eukaryotic cells. The focus will be on genome structure and the regulation of gene expression at the levels of transcription, post-transcriptional processing, translation, post-translational modification and protein sorting. Recombinant DNA technologies and genetic engineering will be discussed as methods for studying the cellular processing of genetic information.~~ Prerequisites: BIOCH 320 and 330~~, or BIOCH 203 and 205, all~~ with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 430, but with additional assignments and evaluation appropriate to graduate studies. This	**BIOCH 530** **Biochemistry of Eukaryotic Gene Expression** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** This course focuses on the biochemical mechanisms underlying the regulation of gene expression in eukaryotic cells. The focus will be on the regulation of gene expression at the levels of transcription, post-transcriptional processing, and translation. The course will specifically address biochemical and structural mechanisms underlying gene regulation, as well as biochemical experimental methods that can be used to probe these activities. Prerequisites: BIOCH 320 and 330 with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 430, but with additional assignments and evaluation appropriate to graduate studies. Students in other programs may be admitted subject to availability and with the consent of the Department.

course may not be taken for credit if credit has already been obtained in BIOCH 430.	This course may not be taken for credit if credit has already been obtained in BIOCH 430.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Approved by Biochemistry Graduate Program Committee AUG 30, 2022.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – Biochemistry
Contact Person:	David Stuart
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

BIOCH 550 was last offered in the Fall term of 2016, and the Department of Biochemistry does not expect to offer this course again.

Course Template

Current	**Proposed**
~~**BIOCH 550 - The Molecular Biology of Mammalian Viruses**~~ ~~**Course Career** Graduate~~ ~~**Units** 3~~ ~~**Approved Hours** 3-0-0~~ ~~**Fee index** 6~~ ~~**Faculty** Medicine and Dentistry~~ ~~**Department** Biochemistry~~ ~~**Typically Offered** either term~~ ~~**Description**~~ ~~This course will focus on virus structure, replication, and interaction with host cells at the molecular level. Lytic viruses with single- or double-stranded DNA or RNA genomes will be discussed, as will the mechanisms of viral oncogenesis. Prerequisites: BIOCH 320 and 330, or BIOCH 203 and 205, all with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 450, but with additional assignments and evaluation appropriate to graduate studies. This course may not be taken for credit if credit has already been obtained in BIOCH 450.~~	**Delete course**

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022
FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022

Approved by Biochemistry Graduate Program Committee AUG 30, 2022.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – Biochemistry
Contact Person:	David Stuart
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

BIOCH 510 - This change is required as the previously required prerequisite courses BIOCH 203 and BIOCH 205 are no longer offered. The change also updates the course content description to more accurately reflect the current course content.

BIOCH 520 – This change is required as the previously required prerequisite courses BIOCH 203 and BIOCH 205 are no longer offered. The change also updates the course content description to more accurately reflect the current course content.

BIOCH 541 – This change is required as the previously required prerequisite courses BIOCH 203 and BIOCH 205 are no longer offered.

BIOCH 609 – This change corrects an error in the Calendar description of this specialized course. BIOCH 609 is only offered to graduate students and not undergraduate students.

BIOCH 623 – This change is required to reflect changes in the subjects covered in this course. Historically this journal club was focussed on the chemistry of nucleic acids but contemporary topics are directed more toward biological and therapeutic application of nucleic acids.

BIOCH 630 – This change relaxes the requirement that students take a prerequisite course offered by the University of Alberta in recognition that students with degrees from other Universities may have taken an acceptable equivalent prerequisite course. We are switching the term offered section to allow for the course to be offered in Fall or Winter terms to meet the requirements of the student population. A statement that the course may be taken by students from other departments is added to the description as this has always been the practice in this course.

Course Template

Current	**Proposed**
BIOCH 510 **Signal transduction** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry	**BIOCH 510** **Signal transduction** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry

Department Biochemistry **Typically Offered** either term **Description** Principles of the biochemistry of cell communication and signal transduction through receptor activation, ~~the~~ generation of second messengers, ~~and the~~ control of protein modifications. The course ~~will~~ emphasize ~~the~~ mechanisms responsible for the regulation of cell migration, division and death. Prerequisites: BIOCH 310, 320 and 330, ~~or BIOCH 203 and 205,~~ all with a minimum grade of B-, or consent of the Department. Lectures are the same as for BIOCH 410, but with additional assignments and evaluation appropriate to graduate studies. This course may not be taken for credit if credit has already been obtained in BIOCH 410.	**Department** Biochemistry **Typically Offered** either term **Description** Principles of the biochemistry of cell communication and signal transduction through receptor activation, generation of second messengers, control of protein modifications and regulation of the cell cycle. The course emphasizes mechanisms responsible for the regulation of cell migration, division and death with an emphasis on cancer. Prerequisites: BIOCH 310, 320 and 330, all with a minimum grade of B-, or consent of the Department. Lectures are the same as for BIOCH 410, but with additional assignments and evaluation appropriate to graduate studies. This course may not be taken for credit if credit has already been obtained in BIOCH 410.
BIOCH 520 **Protein Chemistry, Structure, and Function** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** ~~Protein chemistry and purification. The intra- and intermolecular forces that determine protein structure. Principles of protein folding and dynamics. Enzyme mechanisms and ligand binding interactions.~~ Prerequisites: BIOCH 320~~, or BIOCH 203 and 205, all~~ with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 420, but with additional assignments and evaluation appropriate to graduate	**BIOCH 520** **Protein Chemistry, Structure, and Function** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** Principles of protein structure, function, and dynamics, with an introduction to force fields used in modern molecular dynamics. Focus topics include an introduction to intrinsically disordered proteins and their role in misfolding diseases, the structural biology, ligand binding, and mechanisms of membrane bound enzymes, and mechanisms underlying the regulation of protein function and enzymes involved in cell signaling. Prerequisites: BIOCH 320, with a minimum grade of B- or consent of

studies. This course may not be taken for credit if credit has already been obtained in BIOCH 420.	Department. Lectures are the same as for BIOCH 420, but with additional assignments and evaluation appropriate to graduate studies. Students in other programs may be admitted subject to availability and with the consent of the Department This course may not be taken for credit if credit has already been obtained in BIOCH 420.
BIOCH 541 **Structure and Function of Biological Membranes** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** Survey of the structure and function of biological membranes. Topics include the structure, properties and composition of biomembranes, characterization and structural principles of membrane lipids and proteins, lateral and transverse asymmetry, dynamics, lipid-protein interactions, membrane enzymology, permeability, and biogenesis. Prerequisites: BIOCH 320, ~~or BIOCH 203 and 205, all~~ with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 441, but with additional assignments and evaluation appropriate to graduate studies. This course may not be taken for credit if credit has already been obtained in BIOCH 441.	**BIOCH 541** **Structure and Function of Biological Membranes** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** either term **Description** Survey of the structure and function of biological membranes. Topics include the structure, properties and composition of biomembranes, characterization and structural principles of membrane lipids and proteins, lateral and transverse asymmetry, dynamics, lipid-protein interactions, membrane enzymology, permeability, and biogenesis. Prerequisites: BIOCH 320 or equivalent, with a minimum grade of B- or consent of Department. Lectures are the same as for BIOCH 441, but with additional assignments and evaluation appropriate to graduate studies. Students in other programs may be admitted subject to availability and with the consent of the Department. This course may not be taken for credit if credit has already been obtained in BIOCH 441.

BIOCH 609 **Macromolecular Structure Analysis** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** Second term **Description** Principles of X-ray crystallography as applied to the study of protein and nucleic acid structure. Practical aspects of diffraction and structure solution are demonstrated by collaborative study of a suitable small molecule of biological interest. Designed for ~~senior honors and~~ graduate students. Prerequisite: consent of Instructor. Maximum enrolment of 10 students. Offered in alternate years.	**BIOCH 609** **Macromolecular Structure Analysis** **Course Career** Graduate **Units** 3 **Approved Hours** 3-0-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** Second term **Description** Principles of X-ray crystallography as applied to the study of protein and nucleic acid structure. Practical aspects of diffraction and structure solution are demonstrated by collaborative study of a suitable small molecule of biological interest. Designed for graduate students. Prerequisite: consent of Instructor. Maximum enrolment of 10 students. Offered in alternate years.
BIOCH 623 **Special Topics in Research on Polynucleotides** **Course Career** Graduate **Units** 2 **Approved Hours** 0-1S-0 **Fee index** 4 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** two-term **Description** This course is a journal club and discussion group in which current research topics on nucleic acids are discussed. Specific ~~talks~~ range from biochemistry, genetics and microbiology to ~~nuclear~~ biology and clinical aspects.	**BIOCH 623** **Special Topics in Research on Polynucleotides** **Course Career** Graduate **Units** 2 **Approved Hours** 0-1S-0 **Fee index** 4 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** two-term **Description** This course is a journal club and discussion group in which current research topics on nucleic acids, molecular and cellular biology are discussed. Specific subjects presented range from biochemistry, genetics and microbiology to developmental biology and clinical aspects of nucleic acid derived therapeutics.

BIOCH 630 **Selected Topics in Modern Molecular Biology** **Course Career** Graduate **Units** 3 **Approved Hours** 0-3-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** ~~Second term~~ **Description** Directed reading and seminar course, based on papers taken from the recent literature of molecular biology. Students critically discuss the papers and give oral presentations. Note: designed for graduate students; offered yearly. Prerequisite: BIOCH 530 and consent of the Department.	**BIOCH 630** **Selected Topics in Modern Molecular Biology** **Course Career** Graduate **Units** 3 **Approved Hours** 0-3-0 **Fee index** 6 **Faculty** Medicine and Dentistry **Department** Biochemistry **Typically Offered** Either **Description** Directed reading and seminar course, based on papers taken from the recent literature of molecular biology. Students critically discuss the papers and give oral presentations. Note: designed for graduate students; offered yearly. Students in other programs may be admitted subject to availability and with the consent of the Department. Prerequisite: BIOCH 530 or equivalent and consent of the Department.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Approved by: Biochemistry Graduate Program Committee Aug 30, 2022 FoMD Graduate Programs Committee (GPC) – Sept 22, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – Biochemistry
Contact Person:	Leo Spyracopoulos leo.spyracopoulos@ualberta.ca David Stuart dtstuart@ualberta.ca
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

BIOCH 676: New Course – Methods in Molecular Biophysics for Analysis of Protein Kinetics, Dynamics, Interactions, and Catalysis. This course will build on survey topics introduced in the undergraduate courses BIOCH 420 and 465, specifically protein structure, dynamics, catalysis and interactions. This course will address gaps in our graduate curriculum regarding protein kinetics and enzymology. These topics are typically introduced in a pedagogical sense, and are not applicable to several classes of proteins and enzymes of biological interest. The new course will allow advanced graduate students to independently develop, and creatively apply advanced concepts in molecular biophysics to proteins of significant biological interest.

Course Template

Current	**Proposed**
NEW COURSE	**Subject & Number** **BIOCH 676** **Title** Advanced Methods in Molecular Biophysics for Analysis of Protein Kinetics, Dynamics, Interactions, and Catalysis. **Course Career Graduate** **Units 3** **Approved Hours 3-0-0** **Fee index 6** **Faculty Medicine and Dentistry** **Department Biochemistry** **Typically offered either term, alternate years** **Description** This course will explore the development and application of kinetic models for protein interactions, dynamics, and enzyme catalysis that include the principle of microscopic reversibility/detailed balance. Focus topics may include, but are not limited to: numerical methods for fitting and

	analyses of experimental kinetic data derived from spectroscopic techniques, as well as blending of all-atom and coarse-grained molecular dynamics methods with experimental data to develop detailed molecular insights into proteins of biological interest. Prerequisites: BIOCH 420, 465, or equivalent and consent of the instructor. Maximum enrolment of 10 students. Offered in alternate years.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Approved by Biochemistry Graduate Program Committee SEP 07, 2022.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD** – *Biochemistry*
Contact Person:	David Stuart
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
Type of change request (check all that apply) [?]	☒ Program ☐ Regulation
For which term is this intended to take effect?	ASAP
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No

Rationale

This change is requested to bring the Biochemistry department graduate program calendar entry in line with the University requirement for ethics training by adding the Mandatory course INT D 710. This new requirement will replace the previous requirements that were more diverse. This change also brings the department of Biochemistry Calendar entry in line with other departments in the FoMD. This change benefits the department and the students by increasing the specificity of the ethics training requirement, reducing the need to monitor multiple sources of possible sources of credit in ethics training and harmonizing the Biochemistry requirements with those of other departments in the FoMD.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42337&returnto=11393

Current	**Proposed**
Master of Science (Biochemistry)	**Master of Science (Biochemistry)**
Program Requirements Students are required to complete a minimum of 13 units in course work and a thesis. Additional course work will be necessary when the undergraduate degree is in a different discipline.	**Program Requirements** Students are required to complete a minimum of 13 units in course work and a thesis. Additional course work will be necessary when the undergraduate degree is in a different discipline.
[…]	[…]
Ethics Requirement	**Ethics Requirement**
	Students must meet the FGSR Ethics and Academic Citizenship Training Requirement through the completion

~~Students are required to complete 11 hours of training in research ethics. This training component will normally include participation in the following activities:~~ • ~~The Annual Ethics and Scientific Integrity Days. (5 hours of training).~~ • ~~Introduction to Ethics, Integrity, and Responsibility in the Laboratory for First Year Graduate Students. (1 hour of training).~~ • ~~GET Program (Graduate Ethics Training) a WebCT course organized by the FGSR. (5 hours of training).~~ ~~In some cases this requirement can be completed by participation in other research ethics activities that have been approved by the Department of Biochemistry.~~ ~~The Department of Biochemistry requires that these activities be completed within the first two years of the MSc program.~~ […]	of INT D 710 (for both master's and doctoral students) by the end of the first term of registration in their degree program. […]
Doctor of Philosophy (Biochemistry) **Program Requirements** Students are required to complete a minimum of 16 units in course work and a thesis. Additional course work will be necessary when the undergraduate degree is in a different discipline. […] **Ethics Requirement** ~~Students are required to complete 11 hours of training in research ethics. This training component will normally include participation in the following activities:~~ • ~~The Annual Ethics and Scientific Integrity Days. (5 hours of training).~~	**Doctor of Philosophy (Biochemistry)** **Program Requirements** Students are required to complete a minimum of 16 units in course work and a thesis. Additional course work will be necessary when the undergraduate degree is in a different discipline. […] **Ethics Requirement** Students must meet the FGSR Ethics and Academic Citizenship Training Requirement through the completion of INT D 710 (for both master's and doctoral students) and INT D 720 (for doctoral students) by the end of the first term of registration in their degree program.

~~● Introduction to Ethics, Integrity, and Responsibility in the Laboratory for First Year Graduate Students. (1 hour of training).~~ ~~● GET Program (Graduate Ethics Training) a WebCT course organized by the FGSR. (5 hours of training).~~ ~~In some cases this requirement can be completed by participation in other research ethics activities that have been approved by the Department of Biochemistry.~~ ~~The Department of Biochemistry requires that these activities be completed within the first two years of the MSc program.~~ […]	[…]

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 21, 2022 FoMD Faculty Council (for information/suggestions/challenges) – November 4, 2022
Approved by Biochemistry Graduate Program Committee JUL 22, 2022.

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD – Neuroscience and Mental health Institute-**
Contact Person:	Amber Lapointe – nmhi@ualberta.ca Kelvin Jones - neurogrd@ualberta.ca
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

The proposed new courses NEURO 698 and NEURO 699 will formalize the contribution of graduate students to the research mentoring of undergraduate students taking one-term or two terms undergraduate research courses or summer students from their supervisor's lab. Similar courses are offered successfully by other graduate programs within FoMD.
The new courses NEURO 520 and NEURO 525 will replace BME 520 and BME 510 respectively, in response to the reorganization of the Department of Biomedical Engineering and at the request of the instructor.

Course Template

Current	**Proposed**
NEW COURSE	**Subject & Number** NEURO 698 **Title** Undergraduate Research Mentoring **Course Career Graduate** **Units** 1 **Approved Hours** 0 -0 - 3 **Fee index** 2 **Faculty Medicine and Dentistry** **Department** **Typically Offered:** any term **Description** A credit/no-credit course for graduate students who are actively participating in the mentorship of undergraduate students in a half term research course (e.g. NEURO 451, NEURO 452, NEURO 498, NEURO 499, other one-term research courses offered by the supervisor's department, or summer students from their supervisor's laboratory). Mentorship includes activities such as in-lab supervision, training, and help with reports and

	presentations. Can be taken in any year and Spring/Summer session. Credit may be obtained more than once. Requires the submission of an initial project summary with student learning objectives, monthly progress, and final reports. This course cannot be used to satisfy course requirements of the Neuroscience Graduate Program. Prerequisite: Consent of the Department of and the student's supervisor.
Current NEW COURSE	**Proposed** **Subject & Number** NEURO 699 **Title** Undergraduate Research Mentoring **Course Career Graduate** **Units** 2 **Approved Hours** 0 -0 - 3 **Fee index** 4 **Faculty Medicine and Dentistry** **Department** **Typically Offered** two terms **Description** A credit/no-credit course for graduate students who are actively participating in the mentorship of undergraduate students in a full - term research course *(e.g.* two-terms research courses offered by the supervisor's department). Mentorship includes activities such as in-lab supervision, training, and help with reports and presentations. Can be taken in any year. Credit may be obtained more than once. Requires the submission of an initial project summary with student learning objectives, monthly progress and final reports. This course cannot be used to satisfy course requirements of the Neuroscience Graduate. Prerequisite: Consent of the Department of and the student's supervisor.

Current	Proposed
NEW COURSE	**Subject & Number** NEURO 520 **Title** Neuroplasticity **Course Career** Graduate **Units** 3 **Approved Hours** 3 -0 - 0 **Fee index** 6 **Faculty Medicine and Dentistry** **Department** **Typically Offered** second term **Description** An advanced course for graduate students in Neuroscience that covers the cellular and systems level changes in sensorimotor and pain pathways in response to motor training and/or trauma to the nervous system. A background on experimental techniques and mechanisms of neuronal plasticity from key studies in cortical, spinal and dorsal horn systems will be provided. Students are expected to write and present on current topics in the field of motor and pain neuroplasticity. Students should have a basic background in neurophysiology. Prerequisites: PMCOL 371 and PHYSL 372 or equivalents or consent of instructor. Note: Credit will be granted for only one of BME 520 or NEURO 520.
Current NEW COURSE	**Proposed** **Subject & Number** NEURO 525 **Title** Neuroimaging in Neuroscience **Course Career** Graduate **Units** 3 **Approved Hours** 3 -0 - 0 **Fee index** 6 **Faculty Medicine and Dentistry** **Department** **Typically Offered** first term **Description** Neuroimaging has developed rapidly in recent years

	and has had a profound effect on how we understand the human brain. This advanced course is aimed to provide graduate students and senior undergraduate students a comprehensive overview of the neuroimaging techniques (structural and functional magnetic resonance imaging (MRI), diffusion tensor imaging (DTI), MRI spectroscopy (MRS) etc) currently used in neuroscience research. In addition, we will discuss how neuroimaging methods can advance our understanding of healthy brain function and neuropsychiatric disorders. Prerequisite: Consent of Instructor.

Reviewed/Approved by:

Approved by: FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 14, 2022 FoMD Faculty Council (for information/suggestions/challenges) – October 31, 2022
Approved by: FoMD Graduate Programs Committee – September 12, 2022 Neuroscience Graduate Program Committee – August 30th, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	**FoMD – Department of Pharmacology**
Contact Person:	Jennifer Beattie pmcol.gradadmin@ualberta.ca Elena Posse de Chaves elena.chaves@ualberta.ca
Level of change (choose one only) [?]	☐ Undergraduate ☒ Graduate
For which term will this change take effect?	Fall 2023

Rationale

The proposed new courses PMCOL 698 and PMCOL 699 will formalize the contribution of graduate students to the research mentoring of undergraduate students taking one-term or two terms undergraduate research courses or of summer students from their supervisor's lab. Similar courses are offered successfully by other graduate programs within FoMD.

Course Template

Current	**Proposed**
NEW COURSE	**PMCOL 698 - Undergraduate Research Mentoring** **Course Career Graduate** **Units** 1 **Approved Hours** 0-0-3 **Fee index** 2 **Faculty Medicine and Dentistry** **Department** **Typically Offered:** any term **Description** A credit/no-credit course for graduate students who are actively participating in the mentorship of undergraduate students in a half term research course (e.g. PMCOL 301, PMCOL 302, PMCOL 401, PMCOL 402, PMCOL 497, PMCOL 499, other one-term research courses taken by the undergraduate student in the supervisor's laboratory, or summer students from their supervisor's laboratory). Mentorship includes activities such as in-lab supervision, training, and help with reports and presentations. Can be taken in any year and Spring/Summer session. Credit may be obtained more than once. Requires the submission of an initial project summary with student learning objectives,

	monthly progress, and final reports. This course cannot be used to satisfy course requirements of the Pharmacology Graduate Program. Prerequisite: Consent of the Department of and the student's supervisor.
NEW COURSE	**PMCOL 699 - Undergraduate Research Mentoring** **Course Career** Graduate **Units** 2 **Approved Hours** 0-0-3 **Fee index** 4 **Faculty Medicine and Dentistry** **Department** **Typically Offered** two terms **Description** A credit/no-credit course for graduate students who are actively participating in the mentorship of undergraduate students in a full - term research course *(e.g.* two-terms research courses taken by the undergraduate student in the supervisor's laboratory). Mentorship includes activities such as in-lab supervision, training, and help with reports and presentations. Can be taken in any year. Credit may be obtained more than once. Requires the submission of an initial project summary with student learning objectives, monthly progress and final reports. This course cannot be used to satisfy course requirements of the Pharmacology Graduate Program. Prerequisite: Consent of the Department and the student's supervisor.

Reviewed/Approved by:

FoMD Faculty Learning Committee (Faculty Council-delegated Approver) – October 21, 2022 FoMD Faculty Council (for information/suggestions/challenges) – November 4, 2022
Other consultation groups, departments, or internal faculty approving bodies and approval dates. Approved by FoMD Graduate Programs Committee – Sept 22, 2022 Approved by Department of Pharmacology Committee – September 9 - 2022 Approved by Pharmacology Graduate Studies Executive Committee – September 7, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Faculty of Pharmacy and Pharmaceutical Sciences
Contact Person:	Ayman El-Kadi, Professor and Associate Dean, Research & Graduate Studies
Level of change (choose one only) [?]	☐ Undergraduate ☑ ~~Graduate~~
For which term will this change take effect?	Fall 2023

Rationale

Course title and descriptions edited to better reflect course content.
URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/content.php?catoid=36&navoid=11383

Course Template

Current	**Proposed**
~~Course Listings~~ ~~Pharm 697 – Graduate Seminar~~ ~~Course Career Graduate~~ ~~Units 0~~ ~~Approved Hours 0-1S-0~~ ~~Fee index 1~~ ~~Faculty Pharmacy & Pharmaceutical Sci~~ ~~Department Pharmacy & Pharmaceutical Sc~~ ~~Typically Offered two term~~ ~~Description~~ ~~Seminar training and short seminar presentations on topics related to the student's field of research. Normally, the seminar will be presented during the student's second or third term. Required of all MSc and PhD students.~~	Course Listings … PHARM 697 – Advanced Oral, & Written Skills in Graduate Training Course Career Graduate Units 0 Approved Hours 0-1S-0 Fee index 1 Faculty Pharmacy & Pharmaceutical Sci Department Pharmacy & Pharmaceutical Sc Typically Offered two term Description This course develops students in the critical written and oral communication skills required for successful graduate training, with particular emphasis on writing abstracts, creating research posters, and presenting research orally. All students deliver a 20-min oral presentation in the Winter term. Required of all MSc and PhD students.

Reviewed/Approved by:

REQUIRED: Curriculum Committee: July 20, 2022
Faculty Council: September 21, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Pharmacy and Pharmaceutical Sciences	
Contact Person:	Dr. Rene Breault, Director PharmD for Practicing Pharmacists Program	
Level of change (choose one only) [?]		• Undergraduate
For which term will this change take effect?	Winter 2023 Request Early Implementation	

Rationale

PHARM 511-514:
Changes to experiential education prerequisites for PHARM 511-514 requiring that all didactic coursework be completed prior to commencing experiential courses. Currently students only require one of the Advanced Pharmacotherapy courses (PHARM 523 or 533).
Aligns with historical offerings of the program and the requirement will facilitate students' successful completion of experiential education courses. Overall program structure will remain the same, prerequisites are now more explicit. Faculty consent will still be an option in some select circumstances for those who have not completed all didactic coursework.

Course Template

Current	**Proposed**
~~Removed language~~	New language
PHARM 511 **Title Experiential Learning Part 1** **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer	**PHARM 511** **Title Experiential Learning Part 1** **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer
Description The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care as part of an interprofessional team. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 ~~or~~ 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition	**Description** The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care as part of an interprofessional team. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 and 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition

and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).	and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).
PHARM 512 **Title** Experiential Learning Part 2 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer	**PHARM 512** **Title** Experiential Learning Part 2 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer
Description The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an acute care setting. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 ~~or~~ 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).	**Description** The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an acute care setting. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 and 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).
PHARM 513 **Title** Experiential Learning Part 3 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer	**PHARM 513** **Title** Experiential Learning Part 3 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer
Description The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an ambulatory or community practice setting. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 ~~or~~ 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations	**Description** The PharmD student will be expected to demonstrate professional competencies in the provision of patient care. Direct patient care activities will include health assessment, therapeutic drug monitoring, provision of drug information, and contributing to patient care in an ambulatory or community practice setting. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 and 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations

sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students). **PHARM 514** **Title** Experiential Learning Part 4 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer **Description** The PharmD student will complete a placement in a patient-care practice setting as outlined in PHARM 511, 512 or 513. Credit may be obtained more than once. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 ~~or~~ 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).	sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students). **PHARM 514** **Title** Experiential Learning Part 4 **Course Career** Undergraduate **Units** 6 **Approved Hours** 240 HOURS **Fee index** 12 **Faculty** Pharmacy & Pharmaceutical Sci **Department** Pharmacy & Pharmaceutical Sc **Typically Offered** either term or Spring/Summer **Description** The PharmD student will complete a placement in a patient-care practice setting as outlined in PHARM 511, 512 or 513. Credit may be obtained more than once. Prerequisites: PHARM 501 or 521, 502 or 522, 503 or 523 and 533, 504 or 524/534/544, or with Faculty consent. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. (Restricted to PharmD for Practicing Pharmacists students).

Reviewed/Approved by:

REQUIRED: Curriculum Committee: August 17, 2022
Faculty Council: September 21, 2022

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Rehabilitation Medicine/Communication Sciences & Disorders
Contact Person:	Amy Peters
Level of change (choose one only) [?]	☐ Undergraduate ☑ ~~Graduate~~
For which term will this change take effect?	Fall 2023

Rationale

This course is cross listed with LING 319 and offered online. Both of these courses are exactly the same but for registration purposes the two are separated by their respective programs. It would be more appropriate if both of these would be the same level and therefore requesting CSD 211 to be changed to CSD 311.

Course Template

Current	**Proposed**
~~Removed language~~	New language
Subject & Number - ~~CSD 211~~	**Subject & Number -** CSD 311
Title - Language Development in Children and Adolescents	**Title -** Language Development in Children and Adolescents
Course Career - Undergraduate **Units -** 3 **Approved Hours -** 3-0-0 **Fee index -** 6 **Faculty -** Rehabilitation Medicine **Department -** Communication Sciences & Disorders **Typically Offered -** Two Terms	**Course Career -** Undergraduate **Units -** 3 **Approved Hours -** 3-0-0 **Fee index -** 6 **Faculty -** Rehabilitation Science **Department -** Communication Sciences & Disorders **Typically Offered -** Two Terms
Description Introduction to the study of the development of all aspects of language, from sounds to social interaction, from birth through adolescence. Includes a review of theories and current research as well as practice with analyses of children's language. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Consent of Department required. Prerequisite: LING 101 or equivalent~~.~~ Note: Credit cannot be received for both CSD ~~2~~11 and LING 319.	**Description** Introduction to the study of the development of all aspects of language, from sounds to social interaction, from birth through adolescence. Includes a review of theories and current research as well as practice with analyses of children's language. Sections offered at an increased rate of fee assessment; refer to the Tuition and Fees page in the University Regulations sections of the Calendar. Consent of Department required. Prerequisite: LING 101 or equivalent, LING 204 and LING 205 recommended. Note: Credit cannot be received for both CSD 311 and LING 319.

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date, including any partner faculties for combined programs.
April 28, 2022 - CSD Department Council Approval June 29, 2022 - FRM Executive Committee Meeting for discussion August 30, 2022 - FRM Executive Committee Meeting for approval October 26, 2022 - FRM Faculty Council Meeting for approval

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Rehabilitation Medicine/Communication Sciences & Disorders	
Contact Person:	Amy Peters/Esther Kim	
Level of change (choose one only)	•	Undergraduate
	•	**Graduate**
Type of change request (check all that apply)	•	**Program**
	•	Regulation
For which term is this intended to take effect?	Fall 2023	
Does this proposal have corresponding course changes? (Should be submitted at the same time)	No	

Rationale

Recent changes to the timing of courses within the Master of Science in Speech-Language Pathology schedule will result in students taking the CSD 501 (Clinical Research Methods) course in their third semester (Spring term). Thesis-based students require a course in Research Methods in their first semester so that they may get started on their research project. This change would allow thesis-based students to take REHAB 500 (Conducting Rehabilitation Research) or equivalent as an alternative to CSD 501.

Calendar Copy

https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42443&returnto=11393

Current	**Proposed**
~~Removed language~~ Master of Science in Speech-Language Pathology (Communication Sciences and Disorders) Program Requirements ….. Requirements for the Thesis-based MSc-SLP include all academic and clinical requirements outlined above for all the course-based track. However, instead of the research project (CSD 900), thesis-based students complete a thesis and an additional one-credit practical course in methods of data analysis. Additional coursework in research design, statistics, or specialized content may be recommended by the supervisor and thesis committee.	New language Master of Science in Speech-Language Pathology (Communication Sciences and Disorders) Program Requirements ….. Requirements for the Thesis-based MSc-SLP include all academic and clinical requirements outlined above for all the course-based track. However, thesis-based students may take REHAB 500 or equivalent as an alternative to CSD 501. In addition, instead of the research project (CSD 900), thesis-based students complete a thesis and an additional one-credit practical course in methods of data analysis. Additional coursework in research design, statistics, or specialized content may be recommended by the supervisor and thesis committee.

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date.

- August 30, 2022 – FRM Executive Committee for discussion (revisions needed)
- August 31, 2022 – CSD Department Meeting, revisions included
- September 20, 2022 – FRM Executive Committee for approval
- October 26, 2022 – FRM Faculty Council for approval

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Rehabilitation Medicine/Communication Sciences & Disorders
Contact Person:	Amy Peters/Esther Kim
Level of change (choose one only) [?]	☐ Undergraduate ☑ ~~Graduate~~
For which term will this change take effect?	Spring/Summer (Early Implementation)

Rationale

In our previous calendar changes (Winter 2021) related to reorganizing our clinical education courses in our MScSLP (crse based) program, we reduced credit units from clinical courses earlier in the sequence and shifted them to advanced clinical practicum courses. This previous change resulted in a reduction of credit units for Spring/Summer terms such that students would not have full time status during these terms. The current change redistributes the credit load across semesters to allow for students to retain full time status.

Course Template

Current	**Proposed**
~~Removed language~~	New language
Subject & Number - CSD 524	**Subject & Number - CSD 524**
Title - Introduction to Clinical Practice II	**Title - Introduction to Clinical Practice II**
Course Career - Graduate **Units - ~~4~~** **Approved Hours - 0-3C-1** **Fee index - ~~8~~** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**	**Course Career - Graduate** **Units - 6** **Approved Hours - 0-3C-1** **Fee index - 12** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**
Description Credit. Clinical Practice experiences focusing on a variety of clinical populations. The focus will be on developing intermediate-level competencies. Seminar content will include topics of clinical and/or professional significance (e.g. ethics, health law, private practice, goal setting and data collection). Flexibility in seminar topics will accommodate new topics as they arise. Prerequisites: At least six MSc-SLP courses including CSD 507, 511, 518. Restricted to MScSLPs students only.	**Description** Credit. Clinical Practice experiences focusing on a variety of clinical populations. The focus will be on developing intermediate-level competencies. Seminar content will include topics of clinical and/or professional significance (e.g. ethics, health law, private practice, goal setting and data collection). Flexibility in seminar topics will accommodate new topics as they arise. Prerequisites: At least six MSc-SLP courses including CSD 507, 511, 518. Restricted to MScSLPs students only.

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date, including any partner faculties for combined programs.
April 28, 2022 - CSD Department Council Approval June 29, 2022 - FRM Executive Committee Meeting for discussion August 30, 2022 - FRM Executive Committee Meeting for approval October 26, 2022 - FRM Faculty Council Meeting Approval

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Rehabilitation Medicine/Communication Sciences & Disorders
Contact Person:	Amy Peters/Esther Kim
Level of change (choose one only) [?]	☐ Undergraduate ☑ ~~Graduate~~
For which term will this change take effect?	Spring/Summer 2023 (Early Implementation)

Rationale

In our previous calendar changes (Winter 2021) related to reorganizing our clinical education courses in our MScSLP (crse based) program, we reduced credit units from clinical courses earlier in the sequence and shifted them to advanced clinical practicum courses. This previous change resulted in a reduction of credit units for Spring/Summer terms such that students would not have full time status during these terms. The current change redistributes the credit load across semesters to allow for students to retain full time status.

Course Template

Current	**Proposed**
~~Removed language~~	New language
Subject & Number - CSD 540	**Subject & Number - CSD 540**
Title - Advanced Clinical Practicum	**Title - Advanced Clinical Practicum**
Course Career - Graduate **Units - ~~5-8 Variable~~** **Approved Hours - 0-12C-0** **Fee index - Variable** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**	**Course Career - Graduate** **Units - 5-7 Variable** **Approved Hours - 0-12C-0** **Fee index - Variable** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**
Description Credit. Full-time supervised clinical practice normally for a period of six to eight weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533 (Restricted to MScSLP students only.) Not open to students with credit in SPA 540.	**Description** Credit. Full-time supervised clinical practice normally for a period of six to eight weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533 (Restricted to MScSLP students only.) Not open to students with credit in SPA 540.

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date, including any partner faculties for combined programs.
April 28, 2022 - CSD Department Council Approval June 29, 2022 - FRM Executive Committee Meeting for discussion August 30, 2022 - FRM Executive Committee Meeting for approval October 26, 2022 - FRM Faculty Council Meeting for approval

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Course Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	Rehabilitation Medicine/Communication Sciences & Disorders
Contact Person:	Amy Peters/Esther Kim
Level of change (choose one only) [?]	☐ Undergraduate ☑ ~~Graduate~~
For which term will this change take effect?	Spring/Summer 2023 (Early Implementation)

Rationale

In our previous calendar changes (Winter 2021) related to reorganizing our clinical education courses in our MScSLP (crse based) program, we reduced credit units from clinical courses earlier in the sequence and shifted them to advanced clinical practicum courses. This previous change resulted in a reduction of credit units for Spring/Summer terms such that students would not have full time status during these terms. The current change redistributes the credit load across semesters to allow for students to retain full time status.

Course Template

Current	**Proposed**
~~Removed language~~	New language
Subject & Number - CSD 541	**Subject & Number - CSD 541**
Title - Advanced Clinical Practicum	**Title - Advanced Clinical Practicum**
Course Career - Graduate **Units - ~~5-8 Variable~~** **Approved Hours - 0-12C-0** **Fee index - Variable** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**	**Course Career - Graduate** **Units - 5-7 Variable** **Approved Hours - 0-12C-0** **Fee index - Variable** **Faculty - Rehabilitation Medicine** **Department - Communication Sciences & Disorders** **Typically Offered - two term**
Description Credit. Full-time supervised clinical practice normally for a period of six to eight weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533 (Restricted to MScSLP students only.) Not open to students with credit in SPA 541.	**Description** Credit. Full-time supervised clinical practice normally for a period of six to eight weeks in an approved clinical service facility. Students will have completed all academic course work and will be prepared to work with a broad range of communication disorders under reduced supervision. A minimum of 75 direct contact hours as well as simulated and indirect contact hours will be accrued. Prerequisites: CSD 532 and 533 (Restricted to MScSLP students only.) Not open to students with credit in SPA 541.

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date, including any partner faculties for combined programs.
April 28, 2022 - CSD Department Council Approval June 29, 2022 - FRM Executive Committee Meeting for discussion August 30, 2022 - FRM Executive Committee Meeting for approval October 26, 2022 - FRM Faculty Council Meeting for approval

UNIVERSITY OF ALBERTA

Calendar Change Request Form for Program and Regulation Changes

See the Calendar Guide for tips on how to complete this form.

Faculty (& Department or Academic Unit):	FoMD – *Neuroscience and Mental Health institute*
Contact Person:	Amber Lapointe Dr Silvia Pagliardini
Level of change (choose one only) [?]	☒ Undergraduate ☐ Graduate
Type of change request (check all that apply) [?]	☒ Program ☐ Regulation
For which term is this intended to take effect?	Fall 2023
Does this proposal have corresponding course changes? (Should be submitted at the same time)	Yes

Rationale

1. Additions and deletions from the list of courses available to science students reflecting changes in course offerings over the past few years.

Calendar Copy

URL in current Calendar (or leave blank if it is a new page):
https://calendar.ualberta.ca/preview_program.php?catoid=36&poid=42307&returnto=11345#

Current	**Proposed**
Honors in Neuroscience [Science] The Honors program in Neuroscience is an interdisciplinary program coordinated by the Neuroscience and Mental Health Institute. This program is for students planning a career in Neuroscience. For admission to the Honors in Neuroscience program see Admissions Chart 7: Science Specialization and Honors Requirements, Faculty of Science. Neuroscience is a broadly based discipline covering all aspects of brain function. Some major areas are brain development, nerve cells and synapses, sensation and perception, learning and memory, control of movement, animal behavior, cognitive psychology, and disorders of the nervous system. The Honors program introduces the major areas of	**Honors in Neuroscience [Science]** The Honors program in Neuroscience is an interdisciplinary program coordinated by the Neuroscience and Mental Health Institute. This program is for students planning a career in Neuroscience. For admission to the Honors in Neuroscience program see Admissions Chart 7: Science Specialization and Honors Requirements, Faculty of Science. Neuroscience is a broadly based discipline covering all aspects of brain function. Some major areas are brain development, nerve cells and synapses, sensation and perception, learning and memory, control of movement, animal behavior, cognitive psychology, and disorders of the nervous system. The Honors program introduces the major areas of

Neuroscience and allows students to explore topics of interest in their final year.

Continuation in the Honors program requires a minimum GPA of 3.3 in each preceding Fall/Winter. Graduation requires a minimum GPA of 3.3 on 60 units in Years 3 and 4 of the program. Each program of study must be approved by the program coordinator in the Neuroscience and Mental Health Institute.

A full course load of 30 units per academic year must be maintained throughout each year of the Honors program. Courses cannot be deferred to the Spring/Summer Terms without prior permission of the program coordinator.

Year 1

- BIOL 107 - Introduction to Cell Biology
- CHEM 101 - Introductory University Chemistry I
- CHEM 261 - Organic Chemistry I

- MATH 114 - Elementary Calculus I OR
- MATH 134 - Calculus for the Life Sciences I OR
- MATH 144 - Calculus for the Physical Sciences I OR
- MATH 154 - Calculus for Business and Economics I

- MATH 115 - Elementary Calculus II OR
- MATH 136 - Calculus for the Life Sciences II OR
- MATH 146 - Calculus for the Physical Sciences II OR
- MATH 156 - Calculus for Business and Economics II OR
- STAT 141 OR
- STAT 151 - Introduction to Applied Statistics I

- PHYS 124 - Particles and Waves
- PHYS 126 - Fluids, Fields, and Radiation
- PSYCH 104 - Basic Psychological Processes
- 6 units in junior ENGL or WRS

Year 2

- BIOCH 200 - Introductory Biochemistry
- BIOL 207 - Molecular Genetics and Heredity
- CHEM 263 - Organic Chemistry II
- NEURO 210 - Introduction to Clinical Neuroscience

- PHYSL 212 - Human Physiology I AND
- PHYSL 214 - Human Physiology II

Neuroscience and allows students to explore topics of interest in their final year.

Continuation in the Honors program requires a minimum GPA of 3.3 in each preceding Fall/Winter. Graduation requires a minimum GPA of 3.3 on 60 units in Years 3 and 4 of the program. Each program of study must be approved by the program coordinator in the Neuroscience and Mental Health Institute.

A full course load of 30 units per academic year must be maintained throughout each year of the Honors program. Courses cannot be deferred to the Spring/Summer Terms without prior permission of the program coordinator.

Year 1

- BIOL 107 - Introduction to Cell Biology
- CHEM 101 - Introductory University Chemistry I
- CHEM 261 - Organic Chemistry I

- MATH 114 - Elementary Calculus I OR
- MATH 134 - Calculus for the Life Sciences I OR
- MATH 144 - Calculus for the Physical Sciences I OR
- MATH 154 - Calculus for Business and Economics I

- MATH 115 - Elementary Calculus II OR
- MATH 136 - Calculus for the Life Sciences II OR
- MATH 146 - Calculus for the Physical Sciences II OR
- MATH 156 - Calculus for Business and Economics II OR
- STAT 141 OR
- STAT 151 - Introduction to Applied Statistics I

- PHYS 124 - Particles and Waves
- PHYS 126 - Fluids, Fields, and Radiation
- PSYCH 104 - Basic Psychological Processes
- 6 units in junior ENGL or WRS

Year 2

- BIOCH 200 - Introductory Biochemistry
- BIOL 207 - Molecular Genetics and Heredity
- CHEM 263 - Organic Chemistry II
- NEURO 210 - Introduction to Clinical Neuroscience

- PHYSL 212 - Human Physiology I AND
- PHYSL 214 - Human Physiology II

- PSYCH 275 - Brain and Behavior
- 6 units in Science options (see notes 3,4,5)
- 3 units in Arts options

Year 3

- NEURO 375 - Functional Neuroanatomy
- PMCOL 371 - Cellular Neuroscience OR ZOOL 342 - Neurobiology but not both
- PHYSL 372 - Systems Neuroscience

3 units from

- PSYCH 371 - The Neurobiology of Learning and Memory
- PSYCH 375 - Introduction to Cognitive Neuroscience
- PSYCH 377 - Human Neuropsychology
- GENET 270 - Foundations of Molecular Genetics
- GENET 390 - Gene Manipulation
- ZOOL 344 - Laboratory Exercises in Animal Physiology

Options

- 12 units in approved options
- 6 units in Arts options

Year 4

Honors neuroscience students may choose from two research streams during their fourth year of study. Research Stream A (Independent Study and Laboratory Research) allows for 6 units or 9 units of independent study and research in one or more labs in the Neuroscience and Mental Health Institute. This stream provides flexibility and allows for exposure to multiple research areas. Research Stream B (Undergraduate Honors Thesis in Neuroscience) involves 12 units in independent study and research to be performed in the lab of a single faculty member in the Neuroscience and Mental Health Institute, with the development of an undergraduate honors research thesis. This option is therefore a more intensive research experience allowing for more time and independent study in a neuroscience lab, and will culminate with a written research thesis and oral thesis defense.

Research Stream A (Independent Study and Laboratory Research):

- NEURO 450 - Readings on Selected Topics in Neuroscience

- PSYCH 275 - Brain and Behavior
- 6 units in Science options (see notes 3,4,5)
- 3 units in Arts options

Year 3

- NEURO 375 - Functional Neuroanatomy
- PMCOL 371 - Cellular Neuroscience OR ZOOL 342 - Neurobiology but not both
- PHYSL 372 - Systems Neuroscience

3 units from

- PSYCH 371 - The Neurobiology of Learning and Memory
- PSYCH 375 - Introduction to Cognitive Neuroscience
- PSYCH 377 - Human Neuropsychology
- GENET 270 - Foundations of Molecular Genetics
- GENET 390 - Gene Manipulation
- ZOOL 344 - Laboratory Exercises in Animal Physiology

Options

- 12 units in approved options
- 6 units in Arts options

Year 4

Honors neuroscience students may choose from two research streams during their fourth year of study. Research Stream A (Independent Study and Laboratory Research) allows for 6 units or 9 units of independent study and research in one or more labs in the Neuroscience and Mental Health Institute. This stream provides flexibility and allows for exposure to multiple research areas. Research Stream B (Undergraduate Honors Thesis in Neuroscience) involves 12 units in independent study and research to be performed in the lab of a single faculty member in the Neuroscience and Mental Health Institute, with the development of an undergraduate honors research thesis. This option is therefore a more intensive research experience allowing for more time and independent study in a neuroscience lab, and will culminate with a written research thesis and oral thesis defense.

Research Stream A (Independent Study and Laboratory Research):

- NEURO 450 - Readings on Selected Topics in Neuroscience

• NEURO 451 - Honors Research Project in Neuroscience AND/OR NEURO 452 - Honors Research Project in Neuroscience • 6 units (if NEURO 450, NEURO 451 and NEURO 452 are taken) OR 9 units (if NEURO 450 and one of NEURO 451 or NEURO 452 are taken) of Science options (see notes 3,4,5) approved by the program coordinator. • 3 units in Arts options **6 units chosen from the following courses covering topics in Cellular and Molecular Neuroscience:** • NEURO 410 - Cellular and Molecular Aspects of Normal Aging and Neurodegenerative Disorders • NEURO 411 - Clinical and Basic Science Aspects of Age-related Neurodegenerative Disorders • PHYSL 444 - Current Topics in Neuroscience • PMCOL 412 - Drugs and the Nervous System • PMCOL 475 - Signal Transduction Systems as Pharmacological Targets • ~~PMCOL 512 - Pharmacology of the Synapse~~ • PSYCH 478 - Behavior and Brain Chemistry **6 units chosen from the following courses covering topics in Systems and Cognitive Neuroscience:** • ~~BME 510 - Neuroimaging in Neuroscience~~ • ~~BME 520 - Neuroplasticity~~ • KIN 497 - Selected Topics in Kinesiology and Sport (Computational Neuroscience) • NEURO 443 - Neuroendocrine Concepts • ~~NEURO 472 - Autonomic Nervous System~~ • PHYSL 403 - Neuroendoimmunomodulation • PHYSL 405 - Sensory Physiology • PSYCI 511 - Biological Aspects of Psychiatry • PSYCH 471 - Neurophysiology: Theory, Methods, and Analysis • PSYCH 475 OR **Research Stream B (Undergraduate Honors Thesis in Neuroscience):** • NEURO 498 - Honors Research Project in Neuroscience I • NEURO 499 - Honors Research Project in Neuroscience II 3 units of Science options (see notes 3,4,5) 3 units in Arts options	• NEURO 451 - Honors Research Project in Neuroscience AND/OR NEURO 452 - Honors Research Project in Neuroscience • 6 units (if NEURO 450, NEURO 451 and NEURO 452 are taken) OR 9 units (if NEURO 450 and one of NEURO 451 or NEURO 452 are taken) of Science options (see notes 3,4,5) approved by the program coordinator. • 3 units in Arts options **6 units chosen from the following courses covering topics in Cellular and Molecular Neuroscience:** • NEURO 410 - Cellular and Molecular Aspects of Normal Aging and Neurodegenerative Disorders • NEURO 411 - Clinical and Basic Science Aspects of Age-related Neurodegenerative Disorders • PHYSL 444 - Current Topics in Neuroscience • PMCOL 412 - Drugs and the Nervous System • PMCOL 475 - Signal Transduction Systems as Pharmacological Targets • PSYCH 478 - Behavior and Brain Chemistry **6 units chosen from the following courses covering topics in Systems and Cognitive Neuroscience:** • KIN 497 - Selected Topics in Kinesiology and Sport (Computational Neuroscience) • NEURO 443 - Neuroendocrine Concepts • NEURO 520 Neuroplasticity • NEURO 525 - Neuroimaging in Neuroscience • PHYSL 403 - Neuroendoimmunomodulation • PHYSL 405 - Sensory Physiology • PSYCI 511 - Biological Aspects of Psychiatry • PSYCH 471 - Neurophysiology: Theory, Methods, and Analysis • PSYCH 475 OR **Research Stream B (Undergraduate Honors Thesis in Neuroscience):** • NEURO 498 - Honors Research Project in Neuroscience I • NEURO 499 - Honors Research Project in Neuroscience II 3 units of Science options (see notes 3,4,5) 3 units in Arts options

6 units chosen from the following courses covering topics in Cellular and Molecular Neuroscience: • NEURO 410 - Cellular and Molecular Aspects of Normal Aging and Neurodegenerative Disorders • NEURO 411 - Clinical and Basic Science Aspects of Age-related Neurodegenerative Disorders • PHYSL 444 - Current Topics in Neuroscience • PMCOL 412 - Drugs and the Nervous System • PMCOL 475 - Signal Transduction Systems as Pharmacological Targets • ~~PMCOL 512 - Pharmacology of the Synapse~~ • PSYCH 478 - Behavior and Brain Chemistry **6 units chosen from the following courses covering topics in Systems and Cognitive Neuroscience:** • ~~BME 510 - Neuroimaging in Neuroscience~~ • ~~BME 520 - Neuroplasticity~~ • KIN 497 - Selected Topics in Kinesiology and Sport (Computational Neuroscience) • NEURO 443 - Neuroendocrine Concepts • NEURO 472 - Autonomic Nervous System • PHYSL 403 - Neuroendoimmunomodulation • PHYSL 405 - Sensory Physiology • PSYCI 511 - Biological Aspects of Psychiatry • PSYCH 471 - Neurophysiology: Theory, Methods, and Analysis Notes Each student's program must include: a minimum of 18 units in Arts courses; a minimum of 90 units in Science courses (see notes 3,4,5); no more than 12 units in Outside (non-Science, non-Arts) courses; no more than 42 units at the junior level. Each student's program must have the approval of the Neuroscience and Mental Health Institute. Approved Science options in Years 1-3 may be chosen from Science departments including BIOCH, BIOL, CELL, CHEM, CMPUT, EAS, ENT, GENET, IMIN, MATH, MICRB, PMCOL, PHYS, PHYSL, PSYCH, STAT. 300- and 400-level options are preferable in Years 3 and 4. Courses in Faculties outside of the Faculty of Science and Arts that may be used as Outside (non-Science, non-Arts) options include: ANAT 200, ANAT 400; LABMP 400; PTHER 567, BME 510, BME 520 and KIN 497. Individual research study courses from other Faculties and Departments (including but not limited to BIOCH 299, BIOCH 398, BIOCH 498, BIOL 299, BIOL 398, BIOL 399, BIOL 490, BIOL 498, BIOL 499, CHEM 399, KIN 398, KIN 399, KIN 498, PHYSL 461; PHYSL 467, PHYSL 468,	**6 units chosen from the following courses covering topics in Cellular and Molecular Neuroscience:** • NEURO 410 - Cellular and Molecular Aspects of Normal Aging and Neurodegenerative Disorders • NEURO 411 - Clinical and Basic Science Aspects of Age-related Neurodegenerative Disorders • PHYSL 444 - Current Topics in Neuroscience • PMCOL 412 - Drugs and the Nervous System • PMCOL 475 - Signal Transduction Systems as Pharmacological Targets • PSYCH 478 - Behavior and Brain Chemistry **6 units chosen from the following courses covering topics in Systems and Cognitive Neuroscience:** • KIN 497 - Selected Topics in Kinesiology and Sport (Computational Neuroscience) • NEURO 443 - Neuroendocrine Concepts • NEURO 520 Neuroplasticity • NEURO 525 - Neuroimaging in Neuroscience • PHYSL 403 - Neuroendoimmunomodulation • PHYSL 405 - Sensory Physiology • PSYCI 511 - Biological Aspects of Psychiatry • PSYCH 471 - Neurophysiology: Theory, Methods, and Analysis • PSYCH 475 Notes Each student's program must include: a minimum of 18 units in Arts courses; a minimum of 90 units in Science courses (see notes 3,4,5); no more than 12 units in Outside (non-Science, non-Arts) courses; no more than 42 units at the junior level. Each student's program must have the approval of the Neuroscience and Mental Health Institute. Approved Science options in Years 1-3 may be chosen from Science departments including BIOCH, BIOL, CELL, CHEM, CMPUT, EAS, ENT, GENET, IMIN, MATH, MICRB, PMCOL, PHYS, PHYSL, PSYCH, STAT. 300- and 400-level options are preferable in Years 3 and 4. Courses in Faculties outside of the Faculty of Science and Arts that may be used as Outside (non-Science, non-Arts) options include: ANAT 200, ANAT 400; LABMP 400; PTHER 567, BME 510, BME 520 and KIN 497. Individual research study courses from other Faculties and Departments (including but not limited to BIOCH 299, BIOCH 398, BIOCH 498, BIOL 299, BIOL 398, BIOL 399, BIOL 490, BIOL 498, BIOL 499, CHEM 399, KIN 398, KIN 399, KIN 498, PHYSL 461; PHYSL 467, PHYSL 468,

PHYSL 469, PSYCH 299, PSYCH 399, PSYCH 396, PSYCH 398, PSYCH 496, PSYCH 498, PSYCH 499) must be approved by the program coordinator for the Neuroscience and Mental Health Institute Undergraduate Honors Program In the fourth year, all students must successfully complete an individual study program with members of the Neuroscience and Mental Health Institute. This program can be chosen from either Research Stream A (Independent Study and Laboratory Research) or Research Stream B (Undergraduate Honors Thesis in Neuroscience). Credit in SCI 100 will be considered equivalent to BIOL 107, BIOL 108, CHEM 101, CHEM 164, MATH 114, MATH 115, PHYS 144, PHYS 146 and PSYCH 104. Credit in SCI 151 will be considered	PHYSL 469, PSYCH 299, PSYCH 399, PSYCH 396, PSYCH 398, PSYCH 496, PSYCH 498, PSYCH 499) must be approved by the program coordinator for the Neuroscience and Mental Health Institute Undergraduate Honors Program In the fourth year, all students must successfully complete an individual study program with members of the Neuroscience and Mental Health Institute. This program can be chosen from either Research Stream A (Independent Study and Laboratory Research) or Research Stream B (Undergraduate Honors Thesis in Neuroscience). Credit in SCI 100 will be considered equivalent to BIOL 107, BIOL 108, CHEM 101, CHEM 164, MATH 114, MATH 115, PHYS 144, PHYS 146 and PSYCH 104. Credit in SCI 151 will be considered

Reviewed/Approved by:

REQUIRED: Faculty Council (or delegate) and approval date, including any partner faculties for combined programs.
Other consultation groups, departments, or internal faculty approving bodies and approval dates. Approved by Neuroscience -September 26, 2022

FINAL Item No. 5

Governance Executive Summary
Action Item

Agenda Title	**Proposed Suspension of the Graduate Certificate in Stroke Rehabilitation, Rehabilitation Medicine and FGSR**

Motion

THAT the GFC Programs Committee recommend that the General Faculties Council approve the Suspension of the Rehabilitation Medicine Graduate Certificate in Stroke Rehabilitation, to take effect July 1, 2023.

Item

Action Requested	Approval X Recommendation
Proposed by	Tammy Hopper, Dean - Rehabilitation Medicine, Faculty of Rehabilitation Medicine
Presenter(s)	Bernadette Martin, Associate Dean - Rehabilitation Medicine Roger Epp, Interim Vice-Provost and Dean, FGSR

Details

Office of Administrative Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (*please be specific*)	The proposal is before the committee to approve the suspension of the Graduate Certificate in Stroke Rehabilitation.
Executive Summary (*outline the specific item – and remember your audience*)	This is a tuition-supported Certificate. Enrollment has been lower than the level required to sustain the program. Transition of the Certificate content and learning activities to a non-credit format is being explored to maintain continuing professional education opportunities for health professionals interested in stroke rehabilitation. The program will be suspended for the next five years: there are 3 students currently enrolled in the program who will complete it this year. No new admission applications were received this year.
Supplementary Notes and context	*<This section is for use by University Governance only to outline governance process.>*

Engagement and Routing (Include meeting dates)

Consultation and Stakeholder Participation (parties who have seen the proposal and in what capacity) <For information on the protocol see the Governance Resources section Student Participation Protocol>	*Those who are actively **participating**:* ● All current active students were individually emailed and asked for feedback and provided with the 2022-23 course schedule to plan their program completion.
	*Those who have been **consulted**:* ● All inactive students who have partially completed the program were individually emailed and provided with information regarding the planned suspension. None choose to return to the program.
	*Those who have been **informed**:* ● No new admission applications were received for 2022-23.

Approval Route (Governance) (including meeting dates)	● Graduate Studies Support Team October 3, 2022 ● FRM Faculty Council Oct 26, 2022 ● Policy Review Committee November 10, 2022 ● FGSR Council December 7, 2022 ● GFC Programs Committee December 8, 2022 ● UA Academic Planning Committee (APC) TBD ● UA General Faculties Council (GFC) TBD

Strategic Alignment

Alignment with *For the Public Good*	21. OBJECTIVE Encourage continuous improvement in administrative, governance, planning, and stewardship systems, procedures, and policies that enable students, faculty, staff, and the institution as a whole to achieve shared strategic goals. 22. OBJECTIVE Secure and steward financial resources to sustain, enhance, promote, and facilitate the university's core mission and strategic goals. iii. Ensure responsible and accountable stewardship of the university's resources and demonstrate to government, donors, alumni, and community members the efficient and careful use of public and donor funds.	
Alignment with Core Risk Area	Please note below the specific institutional risk(s) this proposal is addressing.	
	X Enrolment Management ☐ Faculty and Staff X Funding and Resource Management ☐ IT Services, Software and Hardware ☐ Leadership and Change ☐ Physical Infrastructure	☐ Relationship with Stakeholders ☐ Reputation ☐ Research Enterprise ☐ Safety ☐ Student Success
Legislative Compliance and jurisdiction	Post-Secondary Learning Act UofA Calendar General Faculties Council Faculty of Graduate Studies & Research Faculty of Rehabilitation Medicine	

Attachments

1. Rehab Med SUSPENSION Stroke Rehab Certificate Sep2022

Prepared by: Bernadette Martin, Associate Dean - Rehab Med (berni.martin@ualberta.ca)

Proposal Template: Program Suspension and Extension of Suspension

Use this template for proposals to suspend approved programs or specializations or to propose an extension to a current suspension.

Fill in the section below that is relevant to your proposal:

- Section A: if you are proposing a suspension of a ministry-approved program or specialization;
- Section B: if you are proposing an extension to a suspension previously approved by the ministry which is still in effect for a program or specialization.

Institutions should:

- ensure that submission content is concise. Any additional information may be appended;
- indicate "not applicable" when questions are not relevant to a particular proposal; and
- ensure that applicable supporting documents are attached to the proposal.

Basic Information (all proposals must complete this section)

Institution	**University of Alberta**
Program Name	**Graduate Certificate**
Specialization Name	**Stroke Rehabilitation**
Credential Awarded	**Graduate Certificate in Stroke Rehabilitation**
Proposed start date of suspension	**July 1, 2023**
Proposed end date of suspension	**June 30, 2028**

SECTION A: PROGRAM SUSPENSION

SECTION A: RATIONALE

1. Suspension Rationale

a. Identify the purpose for the suspension with supporting rationale and evidence (e.g., low student demand, declining labour market demand, institutional capacity, need for program redevelopment, quality assurance review recommendation, etc.).

- This Graduate Certificate was developed in consultation with the AB Stroke Council and received Ministry Approval in 2010 as a non-funded / tuition supported program. It has been offered by the Faculty of Rehabilitation Medicine (FRM) Continuing Professional Education (CPE) Unit for 11 years. Unfortunately enrollment numbers have never met projected targets and have decreased from an initial cohort of 20 (2011) to 8 (2022) with a relatively low completion rate of ~ 49% overall. This current enrollment level is not financially sustainable. During a formal curriculum review, the Certificate courses were significantly revised and updated based on student and instructor feedback (2018) but that has not led to more applicants or improved the Certificate completion rate. CPE would like to explore a transition of the current

Graduate Certificate to a series of non-credit CPE courses.

b. Document enrolments (by head count) for the most recent 5-year period, including the current academic year if available.

Enrolment	2021-22	2020-21	2019-20	2018-19	2017-18
Total Head count	8	14	16	3	7
● 1st Year of Study	8	7	10	0	7
● Completed Certificate (3 of 3 courses)	0	7	6	3	0

Reviewer's Comment:

a. Indicate when admissions into program/specialization will be or were closed.
- July 1, 2023

b. Briefly explain how the proposed end date of the suspension was determined.
- The typical five-year suspension period will ensure adequate time for any necessary teach-out.

c. Provide specific information about which internal governance body approved the suspension, and provide date of approval.
- Graduate Studies Support Team October 3, 2022
- FRM Faculty Council Oct 26, 2022
- UA Programs Committee TBD
- UA Academic Planning Committee (APC) TBD
- UA General Faculties Council (GFC) TBD
- UA Board Learning Research Student Experience Committee (BLRSEC) TBD
- UA Board of Governors TBD

d. Check the applicable box to specify the longer-term plan.

✔ To terminate the program.

☐ To reactivate the program.

SECTION B: ACCESS

a. Identify potential student access considerations and risks to the Alberta Adult Learning System that the suspension of this program could pose (include both (a) information about related programs available to prospective students internally at your institution; and (b) externally at other Alberta institutions).
- The Faculty of Rehabilitation Medicine (FRM) offers non-credit coursework in the same content area. The FRM Masters of Science in Rehabilitation Science (MScRS) is exploring the possibility of transferring some of the coursework from the Certificate to the MScRS curriculum. There are currently no other graduate certificates in stroke rehabilitation offered in Alberta.

b. If the program or specialization is unique in the province, briefly describe consultation within the Alberta Adult Learning System to investigate feasibility of program/specialization transfer.
- The Faculty has consulted with professionals and team leads within Alberta Health Services to explore options but the designation as a graduate level certificate and the associated work required has made it challenging to support professionals in enrolling and completing the Certificate, especially while working. The proposed transition to a non-credit format currently under consideration by the CPE unit has been positively received.

c. Briefly describe the consultation process that occurred with students at your institution regarding this programming change.
- Students enrolled in or considering application were individually emailed with information regarding the plan to suspend the Certificate. They were also informed of the timetable for the Certificate courses over the next year.

d. Briefly describe your institution's plans to assist active students, if any remain, in completing graduation requirements during the suspension period, including information about formal communication and student advising plans.
- Each student has been contacted by email and informed of the timetable for the Certificate courses over the next year.

e. Briefly describe your institution's plans to accommodate stop-out students, if any have been identified, including information about formal communication plans.
- All active students have been notified and offered the ability to complete the Certificate within program timelines.

Reviewer's Comment:

SECTION C: IMPACT

a. Identify which stakeholder groups were consulted regarding demand/need for this program:

✔ Faculty

✔ Employers and professional associations

□ Regulator and/or accreditation bodies

☐ Advisory Committee(s)

✔ Other (please identify) Survey of Certificate Students

b. Briefly describe the consultation process conducted with these stakeholders and summarize the feedback received.
   - Discussions were held with clinicians, current Certificate instructors and faculty members who have taught in this content area in other programs. Current students were notified and asked for feedback about a non-credit certificate as an alternative – most were supportive of that change.

c. Identify financial impacts and plans for reallocation of internal resources, particularly staff and classroom and lab space.
   - Given that the Certificate courses have always been offered as distance based / online courses, there are no classroom or lab space considerations. CPE staff support several programs, therefore the suspension of this Certificate will not impact staff members.

Reviewer's Comment:

SECTION B: SUSPENSION EXTENSION

SECTION A: RATIONALE

a. Briefly describe the rationale for original suspension request. (Attach ministry approval letter for the original suspension.)
   - N/A

b. Briefly explain why the extension is needed and include supporting evidence (e.g., active students have not completed graduation requirements).
   - N/A

c. If there are students still in the program, describe how they will be supported to complete graduation requirements while the suspension is in place.
   - N/A

d. Explain how the duration of the suspension extension was determined.
   - N/A

Reviewer's Comment:

SECTION B: OTHER CONSIDERATIONS

Other considerations

a. Are there other factors or considerations the Ministry should take into account when reviewing this proposal?
   - Many professionals are inquiring and enrolling in the easily accessible, non-credit, lower cost micro-credential courses within our Faculty. These tend to fit with the schedule and budget for working professionals. Generally graduate certificates are not required for workplace advancement in this practice area.

Reviewer's Comment:

RECOMMENDATION (FOR DEPARTMENT USE)

Recommendation(s):
Rationale for Recommendation:
Reviewer(s):
Date Completed:

FINAL Item No. 6

Governance Executive Summary
Action Item

Agenda Title	**Proposed Suspension of the Graduate Certificate in Bridging to Canadian Physical Therapy Practice, Rehabilitation Medicine and FGSR**

Motion

THAT the GFC Programs Committee recommend that the General Faculties Council approve the suspension of the Rehabilitation Medicine Graduate Certificate in Bridging to Canadian Physical Therapy Practice, to take effect July 21, 2023.

Item

Action Requested	Approval X Recommendation
Proposed by	Tammy Hopper, Dean - Rehabilitation Medicine Faculty of Rehabilitation Medicine
Presenter(s)	Bernadette Martin, Associate Dean - Rehabilitation Medicine Roger Epp, Interim Vice-Provost and Dean, FGSR

Details

Office of Administrative Responsibility	Provost and Vice-President (Academic)
The Purpose of the Proposal is (*please be specific*)	The proposal is before the committee to approve the suspension of Graduate Certification in Bridging to Canadian Physical Therapy Practice
Executive Summary (*outline the specific item – and remember your audience*)	This is a tuition-supported Certificate. Enrollment has been lower than the level required to sustain the program. Transition of the Certificate content and learning activities to a non-credit format is being explored to maintain continuing professional education opportunities for internationally educated physical therapists. There are currently 5 students in this program who will complete the program this academic year.
Supplementary Notes and context	*<This section is for use by University Governance only to outline governance process.>*

Engagement and Routing (Include meeting dates)

Consultation and Stakeholder Participation (parties who have seen the proposal and in what capacity) <For information on the protocol see the Governance	*Those who are actively **participating**:* ● All five current students have been informed of the planned suspension and will be able to complete their programs within the 2022-23 academic year.
	*Those who have been **consulted**:* ● There are no inactive students in this program.

Resources section Student Participation Protocol>	*Those who have been **informed**:* ● Faculty webpage information has been updated for those inquiring about the program. Inquiries are being responded to on an individual basis.
Approval Route (Governance) (including meeting dates)	● Graduate Studies Support Team October 3, 2022 ● FRM Faculty Council Oct 26, 2022 ● Policy Review Committee November 10, 2022 ● FGSR Council December 7, 2022 ● GFC Programs Committee December 8, 2022 ● GFC Academic Planning Committee (APC) TBD ● General Faculties Council (GFC) TBD

Strategic Alignment

Alignment with *For the Public Good*	21. OBJECTIVE Encourage continuous improvement in administrative, governance, planning, and stewardship systems, procedures, and policies that enable students, faculty, staff, and the institution as a whole to achieve shared strategic goals. 22. OBJECTIVE Secure and steward financial resources to sustain, enhance, promote, and facilitate the university's core mission and strategic goals. iii. Ensure responsible and accountable stewardship of the university's resources and demonstrate to government, donors, alumni, and community members the efficient and careful use of public and donor funds.	
Alignment with Core Risk Area	Please note below the specific institutional risk(s) this proposal is addressing.	
	X Enrolment Management ☐ Faculty and Staff X Funding and Resource Management ☐ IT Services, Software and Hardware ☐ Leadership and Change ☐ Physical Infrastructure	☐ Relationship with Stakeholders ☐ Reputation ☐ Research Enterprise ☐ Safety ☐ Student Success
Legislative Compliance and jurisdiction	Post-Secondary Learning Act UofA Calendar General Faculties Council Faculty of Graduate Studies & Research Faculty of Rehabilitation Medicine	

Attachments

1. Rehab Med SUSPENSION Bridging to Can PT Practice Grad Certificate Sep2022

Prepared by: Bernadette Martin, Associate Dean - Rehab Med (berni.martin@ualberta.ca)

Proposal Template: Program Suspension and Extension of Suspension

Use this template for proposals to suspend approved programs or specializations or to propose an extension to a current suspension.

Fill in the section below that is relevant to your proposal:

- Section A: if you are proposing a suspension of a ministry-approved program or specialization;
- Section B: if you are proposing an extension to a suspension previously approved by the ministry which is still in effect for a program or specialization.

Institutions should:

- ensure that submission content is concise. Any additional information may be appended;
- indicate “not applicable” when questions are not relevant to a particular proposal; and
- ensure that applicable supporting documents are attached to the proposal.

Basic Information (all proposals must complete this section)

Institution	**University of Alberta**
Program Name	**Graduate Certificate**
Specialization Name	**Bridging to Canadian Physical Therapy Practice**
Credential Awarded	**Graduate Certificate**
Proposed start date of suspension	**July 1, 2023**
Proposed end date of suspension	**June 30, 2028**

SECTION A: PROGRAM SUSPENSION

SECTION A: RATIONALE

1. Suspension Rationale

a. Identify the purpose for the suspension with supporting rationale and evidence (e.g., low student demand, declining labour market demand, institutional capacity, need for program redevelopment, quality assurance review recommendation, etc.).

- This Graduate Certificate was developed with a Health Canada grant (2013-2015) and received Ministry Approval as a non-funded / tuition supported Graduate Certificate program in 2016. The Certificate has been offered since the 2017-18 academic year. Unfortunately the enrollment numbers have declined consistently each year since the inception of the Certificate and it is not financially sustainable. CPE would like to explore a transition from the current Graduate Certificate to a series of non-credit CPE courses that will continue to support the learning needs of internationally educated Physical Therapists (IEPTs) entering the healthcare workforce in Canada.

b. Document enrolments (by head count) for the most recent 5-year period, including the current academic year if available.

Enrolment	2022-23	2021-22	2020-21	2019-20	2018-19
Total Head count	5	9	9	9	10
●1st Year of Study	5	9	9	9	10
●Completed Certificate (5 of 5 courses)	0 TO DATE	6	8	5	7
Reviewer's Comment:					

a. Indicate when admissions into program/specialization will be or were closed.
- July 1 2023

b. Briefly explain how the proposed end date of the suspension was determined.
- The typical five-year suspension period will ensure adequate time for any necessary teach-out.

c. Provide specific information about which internal governance body approved the suspension, and provide date of approval.
- Graduate Studies Support Team October 3, 2022
- FRM Faculty Council October 26, 2022
- Policy Review Committee November 10, 2022
- UA Programs Committee TBD
- UA Academic Planning Committee (APC) TBD
- UA General Faculties Council (GFC) TBD
- UA Board Learning Research Student Experience Committee (BLRSEC) TBD
- UA Board of Governors TBD

d. Check the applicable box to specify the longer-term plan.

✔ To terminate the program.

☐ To reactivate the program.

SECTION B: ACCESS

a. Identify potential student access considerations and risks to the Alberta Adult Learning System that the suspension of this program could pose (include both (a) information about related programs available to prospective students internally at your institution; and (b) externally at other Alberta institutions).
- The Faculty of Rehabilitation Medicine (FRM) offers non-credit coursework in some of the same content area as is covered within the Certificate. There are currently no other graduate certificates in bridging to Canadian PT practice offered in Alberta.

b. If the program or specialization is unique in the province, briefly describe consultation within the Alberta Adult Learning System to investigate feasibility of program/specialization transfer.

- The Faculty has consulted with IEPTs, clinicians and the College of Physiotherapist of Alberta. There is ongoing discussion about a more modular series of non-credit courses to meet the learning needs of IEPTs. There is consensus that more accessibility to education and mentorship to successfully bridge is desired.

c. Briefly describe the consultation process that occurred with students at your institution regarding this programming change.

- Certificate graduates and students currently enrolled have been consulted through email or in discussions with the program director. Those inquiring or considering application for 2023 have been advised that the format will likely be changing and they will be provided with more information when available.

d. Briefly describe your institution's plans to assist active students, if any remain, in completing graduation requirements during the suspension period, including information about formal communication and student advising plans.

- The current cohort will not see any change and should be able to complete the Certificate in the 1-year timeframe. Typically most students complete this Certificate within a year with their admission cohort and deferral of courses is rare. Offering a course(s) to allow student completion will be scheduled as needed.

e. Briefly describe your institution's plans to accommodate stop-out students, if any have been identified, including information about formal communication plans.

- There are currently no stop-out students in this Certificate.

Reviewer's Comment:

SECTION C: IMPACT

a. Identify which stakeholder groups were consulted regarding demand/need for this program:

✔ Faculty

✔ Regulator and/or accreditation bodies

✔ Employers and professional associations

☐ Advisory Committee(s)

✔ Other (please identify) Survey of Certificate Students

b. Briefly describe the consultation process conducted with these stakeholders and summarize the feedback received.

- Discussions were held with clinicians, current Certificate instructors and faculty members who have taught in this content area in other programs. Early discussions with the College of PTs of AB have also been held. Generally there is support for a series of courses that can be customized for an individual IEPT and which are less expensive and accessible more often during the calendar year. The graduate certificate level of credential is not considered essential.

c. Identify financial impacts and plans for reallocation of internal resources, particularly staff and classroom and lab space.

- Given that the Certificate courses have always been offered using a hybrid format with mainly online learning and a few days of weekend in-person lab sessions, and some of the content is offered at affiliated clinical sites, there are no space impacts. As the Certificate instructors are hired on short term contracts, and staff members support several programs, the suspension of this Certificate will not impact staff.

Reviewer's Comment:

SECTION B: SUSPENSION EXTENSION

SECTION A: RATIONALE

a. Briefly describe the rationale for original suspension request. (Attach ministry approval letter for the original suspension.)

- N/A

b. Briefly explain why the extension is needed and include supporting evidence (e.g., active students have not completed graduation requirements).

- N/A

c. If there are students still in the program, describe how they will be supported to complete graduation requirements while the suspension is in place.

- N/A

d. Explain how the duration of the suspension extension was determined.

- N/A

Reviewer's Comment:

SECTION B: OTHER CONSIDERATIONS

Other considerations

a. Are there other factors or considerations the Ministry should take into account when reviewing this proposal?

- Many professionals are inquiring and enrolling in the easily accessible, non-credit, lower cost micro-credential courses within our Faculty. These tend to fit with the schedule and budget for working professionals. IEPTs are a unique student population who truly appreciate educational opportunities that can advance their integration into the Canadian workplace. Most IEPTs have limited budgets and are not seeking a graduate certificate credential.

Reviewer's Comment:

RECOMMENDATION (FOR DEPARTMENT USE)

Recommendation(s):

Rationale for Recommendation:
Reviewer(s):
Date Completed: