Academic Programs Committee of Council

University Course Challenge

Scheduled posting: March 2022

The following types of curricular and program changes are approved by the University Course Challenge -- additions and deletions of courses, lower levels of study and program options; straightforward program changes; and curricular changes which affect other colleges.

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

College of Agriculture and Bioresources
College of Arts and Science
College of Dentistry
College of Graduate and Postdoctoral Studies

Approval: Date of circulation: March 17, 2022
Date of effective approval if no challenge received: March 31, 2022

Next scheduled posting:

The next scheduled posting will be April 14, 2022, with a submission deadline of **April 12, 2021.** Urgent items can be posted on request.

Please direct challenges to both of the following: seanine.warrington@usask.ca in Registrarial Services and amanda.storey@usask.ca in the Governance Office.

College of Agriculture and Bioresources, Submission to March 2022 University Course Challenge

The following new course proposals were approved by the College of Agriculture and Bioresources and are now being submitted to University Course Challenge for approval:

New Course Proposals

PLSC 202.3 Introductory Precision Agriculture

This course will give students an introduction to precision agriculture as it relates to field crop production. Students will learn about the agronomy and technology of variable rate technology. The course will highlight the economic and environmental benefits of precision agriculture, as well as examining components of it, including soil and crop variability, global positioning systems, machinery automation, spatial analysis, unoccupied aerial vehicles (UAVs), and satellite imagery. The course will bring together these elements to allow students to evaluate precision agriculture services. This is the foundation course in the Precision Agriculture Certificate.

Prerequisite(s) or Corequisite(s): AGRC 111.3; or permission of the instructor

Rationale:

This course will be the first required course for the proposed Precision Agriculture Certificate being developed at the University of Saskatchewan. It will be open to students from all colleges and will serve to introduce them to precision agriculture. It will provide foundational knowledge on how precision agriculture is practiced. Students will get an overview of the economic and ecological basis for precision agriculture and how information is used to develop variable rate crop input prescriptions. They will also develop an appreciation for the large data and analytical requirements to implement precision agriculture programs.

PLSC 402.3 Advanced Precision Agriculture

This course is the capstone course in the Precision Agriculture Certificate. It will allow students to integrate knowledge from their specific subdiscipline with real-world precision agriculture solutions to increase the sustainability and production of crops. Students will learn advanced concepts in precision agriculture and how to analyze spatial and temporal variability in crop production. They will utilize a variety of data, ranging from satellite imagery, soil topography and soil properties, to understand and develop variable rate prescriptions for crop inputs. Finally, students will apply this knowledge in diverse teams that utilize discipline-specific knowledge to solve real-world precision agriculture problems.

Prerequisite(s): PLSC 202 and GEOG 222. One of PLSC 214.3, STAT 245.3 or GE 210.3 is strongly recommended.

Rationale:

This course will be the capstone course for the proposed Precision Agriculture Certificate being developed at the University of Saskatchewan. It will serve as an integrator course where students utilize variable rate technology applied to specific real-world scenarios. It will be open to students from colleges participating in the Precision Agriculture Certificate. It will build upon skills learnt by the students within their respective sub-discipline and the two required courses for the Precision Agriculture Certificate. There will be an emphasis on learning practical, generic methods of analyzing real-world

data to develop solutions to precision agriculture. The in-depth knowledge of precision agriculture will allow students to critically evaluate and understand recommendations from commercial precision agriculture companies.

PLSC 475.3 Insect Ecology

This course will investigate important concepts in insect ecology with an emphasis on species interactions. Topics covered will include plant-insect interactions, behavioural ecology, evolutionary ecology, climate change and insects, toxicology, and multi-trophic interactions. The course places a heavy emphasis on primary scientific literature. Students will also compose a grant or fellowship style application for an insect related project.

Prerequisite: PLSC 260, PLSC 350, or BIOL 365, and one of PLSC 213 or Biol 228; or permission of the instructor.

Rationale:

Insects are the most diverse group of animals and are probably the most diverse group of multicellular organisms. They are important pests of crops, urban forests, and buildings. They transmit disease to humans and animals. Insects also provide critical ecosystem services and frequently used as bioindicators. As such, their ecology is complex, spans numerous sub-disciplines, and is important to a wide range of biological and environmental jobs. Currently, entomology courses offered at the USask include applied courses in insect management and a taxonomically focused course. There is a gap, however, in our course offerings with respect to insect organismal biology and ecology. This course will address that gap and will prove useful for students in several majors and degree programs including Agricultural biology, Environmental Biology, Crop Science, and Environmental Science.

Item for Information

Change to Course Title

ANSC 316.3: Feed Technology ~~and Swine Production~~

This course explores the nutritional and functional properties of feed ingredients, diet formulation, feed processing technologies, regulations, quality control, feed mill management and specialty processing.

Weekly hours: 3 Lecture hours and 2 Practicum/Lab hours

Prerequisite(s): ANSC 212.3 and BMSC 230.3

Note: Costs in addition to tuition will be assessed.

Rationale: The course focuses on feed technology and does not include swine production, so the change aligns the title with the course content.

University Course Challenge – March 2022
The curricular revisions listed below were approved through the Arts & Science College Course and Program Challenge, and by the relevant college-level Academic Programs Committee, and are now submitted to the University Course Challenge for approval.

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

Geology

New course(s):
GEOL 464.3 Geoscience of Green Energy and the Digital Economy
3 Lecture Hours and 2 Tutorial Hours
Electricity generation is the cornerstone for the rapidly expanding digital economy, and the global transition to "green energy", which is driven by attempts to reduce both greenhouse gas emissions and the use of non-renewable resources. The course will examine the definition, location, and importance of green energy sources, such as solar, wind, geothermal, hydroelectric, tidal, and nuclear. The geological characteristics of these energy sources will be considered, along with the use of resources, such as critical materials, and other issues associated with the generation, storage, and distribution of the energy produced, and the importance of recycling, waste disposal, and the circular economy. Local, national, and global examples will be provided in order to emphasize that an understanding of geoscience is important to the success of green energy initiatives. The course format will consist of lectures combined with student-led discussion of selected articles, texts, and relevant national and global news and policy announcements.
Prerequisite(s): One of GEOL 108, 109, 121, 122 or GEOG 120, 125; and 60 credit units university level.
Note: Students with credit for GEOL 498.3 Geoscience of Green Energy and the Digital Economy may not take this course for credit.
Instructor: Kevin Ansdell
Rationale: Climate change is at the forefront of the minds of populations, policy makers, and politicians around the world, and there is an international drive to reduce the emission of greenhouse gases into the atmosphere. Modelling suggests that net zero emissions of greenhouse gases by 2030 to 2050 will limit warming and reduce the costs of mitigation related to weather events, rising sea levels, and ecosystem changes. The transition to green, clean, sustainable energy sources away from fossil fuels is considered to be vital, and so targets have been developed internationally, nationally, and provincially to increase the proportion of green energy sources in power generation and to significantly speed-up the electrification of transportation infrastructures. The latter includes an ambitious goal of 30% of global market share for electric vehicles by 2030, with related increasing demand for storage batteries. The variety of green energy sources also allows power generation to be more localized which potentially provide secure energy sources for isolated communities. The connection between communities is enhanced by the enormous increase in global digital networks, driving economic activity into the future, and all of which is powered by electricity sources.
The University of Saskatchewan has a number of academic and research initiatives that are focused on the development of energy policies, and the development of green energy and digital technologies and materials.(These are linked to the signature area of "Energy and Mineral Resources – Technology and Public Policy for a Sustainable Environment", and include: Community Appropriate Sustainable Energy Security (CASES) Partnership in SENS; Energy Policy initiative in the Centre for the Study of Science and Innovation Policy in JSGS, including a focus on green energy to drive the post-Covid-19 economy; Sylvia Fedoruk Canadian Centre for Nuclear Innovation; CRC in Photovoltaics and Solar Energy). However, there is no undergraduate course that examines the geoscience component of the "new future", particularly regarding the importance, distribution, supply, demand, and genesis of the natural resources, especially critical materials, required to meet the provincial, national ,and global goals. This course is designed to provide that perspective, and is designed to be an elective in the Geology, and Environmental Geoscience programs, and will be acceptable as a geoscience course for Professional Registration for students. It will also be complementary to courses available in other programs in the College of Arts and Science, such as Chemistry, Computer Science, Economics, Environment and

Sustainability, Geography, Physics, Toxicology, and across the university, such as in Civil, Chemical, Computer, Electrical, Environmental, and Geological Engineering, Environmental Sciences in Agriculture and Bioresources, and Law. The aim is for the course to attract students from across disciplines to spark cross-disciplinary discussion and provide different perspectives, and so the rationale is for a 400-level course so that the students have already obtained a breadth of knowledge. In addition, the subject matter may be of interest to graduate students in the School of Environment and Sustainability, and the Johnson Shoyama Graduate School of Public Policy, for example, the new Master of Sustainable Environmental Management in Energy Security program (SENS), or Masters programs in Public Policy or Northern Governance and Development (JSGS), or any other graduate program involving research into green energy that would benefit from the geoscience perspective.

History

New course(s):
HIST 474.3 The United States in the Nuclear Age
3 Seminar Hours
This seminar course studies the development of U.S. Cold War policies, with special attention paid to the decisions regarding nuclear weapons and the arms race. From a variety of scholarly perspectives, the course examines key diplomatic, strategic, political, social, and environmental implications of these policies from the 1930s to the present. Using a wide range of sources, we analyse several topics including: the international race for an atomic bomb, the creation of the Manhattan Project during World War Two, the decision to drop nuclear weapons on Japan, the bomb and the origins of the Cold War, anti-nuclear activism and arms control, the Cuban Missile Crisis, and the impact of the arms race on American society and the environment.
Prerequisite(s): 6 credit units of senior-level HIST of which 3 credit units must be 300-level or permission of the department.
Note: Students who have credit for HIST 471.6 can not receive credit for this course.
Instructor: Martha Smith
Rationale: This is a 3 credit unit version of HIST 471.6, which will be deleted. HIST 471 was popular with students and the new format will make it easier for both students and the department to schedule. The content reflects the current research of the instructor and will improve the department's regular offerings in US history.

Course deletion(s):
HIST 471.6 The United States in the Nuclear Age
The Department of History is eliminating all 6 credit unit courses other than experiential learning and travel-study opportunities. HIST 474.3 (proposed) will replace this.

Music

Minor program revisions
Bachelor of Music Honours (Performance) and Four-year (Individualized) in Music
Add EMUS 302.2 (Classroom Guitar Techniques for Music Majors) in the appropriate places for these programs. Add MUAP 209.1 to the list of Music Electives in the Individualized program. Add MUAP 212.1 to the list of Music Electives for both programs.

Bachelor of Music Individualized (B.Mus. Individualized)
G2 Music (62 credit units)

- MUS 115.3
- MUS 120.2
- …
- MUS 234.3

- MUS 255.3

Theory/Analysis Electives

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

- …

Music History Electives

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

- …

Music Electives

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

- EMUS 302.2 Classroom Guitar Techniques for Music Majors
- MUAP 201.1
- MUAP 202.1
- MUAP 203.1
- MUAP 204.1
- MUAP 205.1
- MUAP 206.1
- MUAP 207.1
- MUAP 208.1
- MUAP 209.1
- MUAP 210.1
- MUAP 211.1
- MUAP 212.1
- MUS 175.3
- MUS 184.3
- MUS — 200-Level, 300-Level, 400-Level

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

G2 Music (65 credit units)

- MUS 115.3
- MUS 120.2
- …
- MUS 255.3
- MUS 325.3

Music History Electives

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

- …

Music Elective (Literature/Pedagogy)

- …

Theory/Analysis Electives

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

- …

Music Electives

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

- EMUS 302.2 Classroom Guitar Techniques for Music Majors
- MUAP 201.1
- MUAP 202.1
- MUAP 203.1
- MUAP 204.1
- MUAP 205.1
- MUAP 206.1
- MUAP 207.1
- MUAP 208.1
- MUAP 209.1
- MUAP 210.1
- MUAP 211.1
- MUAP 212.1
- MUS 175.3
- MUS 184.3
- MUS — 200-Level, 300-Level, 400-Level

Rationale: EMUS 302.2 is proposed concurrently and these changes will ensure that the course is automatically accepted to meet the requirements of the B.Mus. programs. MUAP 209.1 was accidentally omitted from the Individualized program. MUAP 212.1 is a recently approved course that is an appropriate choice where the other ensemble courses are all listed.

New course(s):
MUS 104.3 Group Guitar for the Beginner
3 Practicum Hours
This undergraduate course is open to non-music majors with no prior training in music or guitar. Students will learn the basic skills to many aspects of the classical/folk guitar that includes chording and picking. Students will experience the solo acoustic guitar format utilizing repertoire from a wide range of genres from North America, South America, and Europe. Students will gain the knowledge of basic theory through performance and learn to play through aural and visual modelling, to read tablature notation, chord and strum, and pick in the proper style of the music studied.
Prerequisite(s): None.
Note: This undergraduate course is open to non-music majors with no prior training in music or guitar. Students will learn the basic skills to many aspects of the classical/folk guitar that includes chording and picking. Students will experience the solo acoustic guitar format utilizing repertoire from a wide range of genres from North America, South America, and Europe. Students will gain the knowledge of basic theory through performance and learn to play through aural and visual modelling, to read tablature notation, chord and strum, and pick in the proper style of the music studied.

Instructor(s): There is no guitar specialist among the department's faculty, so this course will be taught by a Sessional Instructor.
Rationale: Guitar is a popular instrument in society and a good instrument for the novice musician to learn about music, and to solo or accompany another instrument(s), such as voice. It provides an option for students to fulfill open elective needed for their degree program. As the global pandemic continues, social isolation has and continues to create many and varied problems in student's lives. This practical 'hands on' experiential-based course will facilitate music making in groups and individually. This course will help students not only play the guitar, it will support them in their 'singer/songwriter' aspirations as well.

Music Education

Minor program revisions
Bachelor of Music Honours and Four-year in Music Education
Add EMUS 302.2 (Classroom Guitar Techniques for Music Majors) in the appropriate places for these programs. Correct the list of MUAP courses to ensure that all ensemble courses are included.

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

G6 Music Education (21 credit units)

- EMUS 238.3
- **EMUS 431.3** Teaching Music in the Elementary School

Choose 8-**9 credit units** from the following:

- EMUS 270.3
- EMUS 302.2 Classroom Guitar Techniques for Music Majors
- **EMUS 333.3** Brass Techniques
- **EMUS 335.3** Woodwind Techniques
- **EMUS 337.3** Jazz Pedagogy
- **EMUS 339.3** Percussion Techniques
- **EMUS 438.3** Choral Music Teaching in the Secondary School
- **EMUS 442.3** Organization and Administration of School Music Program
- **EMUS 448.3** Instrumental Music Teaching in the Secondary School

Choose **6-7 credit units** selected from the above list, from any MUS course, and/or from **MUAP 201.1** – MUAP 212.1 ~~210.1~~

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

G6 Music Education (24 credit units)

- **EMUS 438.3** Choral Music Teaching in the Secondary School or **EMUS 448.3** Instrumental Music Teaching in the Secondary School
- **EMUS 442.3** Organization and Administration of School Music Program

Choose 14-**15 credit units** from the following:

- EMUS 238.3
- EMUS 270.3
- EMUS 302.2 Classroom Guitar Techniques for Music Majors
- **EMUS 333.3** Brass Techniques
- **EMUS 335.3** Woodwind Techniques
- **EMUS 337.3** Jazz Pedagogy
- **EMUS 339.3** Percussion Techniques
- **EMUS 431.3** Teaching Music in the Elementary School

Choose **3~~-4~~ credit units** selected from the above list, from any MUS course, and/or from **MUAP 201.1** - MUAP 212.1 ~~210.1~~

Rationale: EMUS 302.2 is proposed concurrently and these changes will ensure that the course is automatically accepted to meet the requirements of the B.Mus. programs. MUAP 211 and 212 are ensemble courses that are appropriate choices where MUAP 201-210 appear.

New course(s):
EMUS 302.2 Classroom Guitar Techniques for Music Majors
2 Practicum Hours
This course is designed for teachers who plan to use the guitar as a vehicle for teaching music concepts and skills at the elementary or secondary levels. Teaching methods and materials include a review of audiovisual and other materials, teaching and motivational strategies, classroom routines, and evaluation strategies.
Prerequisite(s): MUAP 145; MUS 120; MUS 133; and one of MUS 150, MUS 151, MUS 155, or MUS 156, or permission from the department.
Note: Registration is restricted to students in the BA Music and B.Mus. programs.
Instructor(s): There is no guitar specialist among the department's faculty, so this course will be taught by a Sessional Instructor.
Rationale: There is an increasing demand for school-based music educators to successfully teach a guitar classes for students to fulfill in part one of their B.Mus. (Music Education) degree requirements.

Sociology

New course(s):
SOC 408.3 Colonialism Gender and Violence
3 Seminar Hours
This course draws on decolonial Indigenous feminist scholarship and post-colonial development thought to theorize about colonial gendered violence in context of ongoing settler colonialism. Guided by writings of Indigenous and racialized women and decolonial scholars, the course explores themes such as: post and settler colonialisms; recognition and refusals; law and violence; missing and murdered Indigenous women, girls, trans, and two-spirit persons; gendered and sexualized violence; consent; sexual labour; international and Indigenous laws; and decolonial and transformative anti-violence possibilities.
Prerequisite(s): 12 credit units SOC courses including SOC 212, or permission of the instructor.
Instructor: Julie Kaye
Rationale: This course builds on three core focus areas of the Department of Sociology and key areas of study identified by the Canadian Sociological Association in their research and teaching clusters: Settler Colonialism, Gender, and Criminology and Sociology of Violence. The course builds on the department of Sociology's 2nd and 3rd year course offerings of Introduction to Criminology and Current Issues in Criminal Justice. The course meets a number of demands in the Department of Sociology as demonstrated by related offerings of reading courses to meet the gap in this area of our senior undergraduate/graduate programming. We also have a number of students attending our program who would benefit from training in a critical analysis of settler colonialism in Canada. Additionally, the course development engaged the Indigenous Course (re)Design Program.

College of Dentistry - University Course Challenge, March 2022

The College of Dentistry has approved the creation of several new *elective courses* open to students in that college. These courses do not form part of any core requirements for the D.M.D. program in the College of Dentistry.

The following course proposals are being submitted to University Course Challenge for final approval, as follows:

New Course Proposals

DENT 601.1 Crown in a Day

CEREC has enabled dentists to fabricate a crown in a single day. This technique would not only save time and money to the dentist, it will also make it more convenient to the patient as he or she is going to have the crown in the same day.

Prerequisite(s): Must have successfully completed years 1 & 2 of the D.M.D. program

Rationale: The College of Dentistry has invested heavily in digital dentistry. Recently the college has acquired a milling machine in addition to many intra oral scanners. The college vision is to become a pioneer in digital dentistry related to crown/ bridge fixed prosthodontics. Through this course the student will be able to understand not only the theoretical fundamentals of the tooth preparation, scanning and crown design but also will be able to practice on mannequins' teeth what he or she has learned in the class. This will improve the students' understanding to the specific characteristics of the CEREC crown preparation and it will make them able to deliver the restoration in the same day. Such a training will make the students very competitive in terms of employment as they will be comfortable with cutting edge technology.

DENT 602.1: Current topics in Connective Tissue Diseases of the Oral Cavity

Connective tissue is essential for maintaining structural integrity and health of the oral cavity. Connective tissue is a barrier to inflammatory responses which, if uncontrolled, can results in disorders including: bone loss, drug-induced gingival hyperplasia and oral cancers. Conversely, oral connective tissue fibroblasts cells have stem cell-like properties. This course will use primary research literature to critically evaluate recent developments in oral connective tissue biology.

Prerequisite(s): Must have successfully completed year 1 & 2 of the DMD program

Rationale: The objective will be to promote critical thinking by analyzing the primary research literature. The course will be relevant to those interested in caries, implants and periodontology as students will learn how inflammation affects connective tissue homeostasis and can progress to disease. The course will also promote oral communication skills and encourage students to conduct research. The course will be especially relevant for students interested in academic careers.

DENT 603.1: Introduction to Dental Lab Procedures

This course introduces students to the procedures involved in the fabrication of fixed and removable dental prosthetics to provide a more in depth understanding of the fabrication process of dental prothesis than what is delivered in the current DMD curriculum. Topics addressed include: Time

requirements for the fabrication of numerous prosthesis types, work-flow details for common prostheses, material and fabrication process options for various fixed prostheses, conventional and digital demonstrations of fabrication processes for complete dentures and partial denture frameworks.

Prerequisite(s): DENT 321.2 Dental Materials, DENT 340.4 Fixed Prosthodontics, DENT 330.5 Removable Prosthodontics

Rationale: This course is designed to provide a more in depth understanding of the fabrication process of dental prosthetics than that provided in the pre-clinical prosthodontics courses offered in the DMD program.

DENT 604.1: Leadership in Dentistry

This course is an introduction to leadership theory and practice and how leadership influence dentistry. Students will understand leaders' behaviors and attributes by exploring different leadership models. During this course, leadership theory and practices including issues and dilemmas will focus on real-world situations related to dentistry.

Prerequisite(s): Open to students registered in the D.M.D. Program.

Rationale: This unique course is designed to explore leadership skills and how these skills could be applied in dentistry.

DENT 605.1: Laser and Photodynamic Therapy: From Basic Science to Oral Medicine Applicability

Photobiomodulation therapy (PBMT), with low power laser or LED, is no longer a promising therapy, but it has become one important advance in the medical and dental care. The benefits associated to PBMT include its analgesic, inflammation-modulating, and repairing effects. In addition, when a specific light wavelength is associated with a photosensitizer and oxygen, the so-called antimicrobial photodynamic therapy; it may present antimicrobial effect, being indicated to treat infected oralfacial lesions.

Prerequisite(s): Must have successfully completed year 1 of the DMD program

Rationale: The present course explores the basic principles of lasers, PBMT and PDT, as well as their benefits when incorporated into the daily clinical practice. Students will be introduced to an innovative technology, with wide applicability in oral medicine. Basic and clinical outcomes indicate its use for the prevention and treatment of oral mucositis, post-operative tissue recovery, acute and chronic pain, skin and mucosa wound healing, as well as for salivary gland hypofunction, COVID-19 orofacial lesions, trismus, osteonecrosis and osteoradionecrosis, opportunistic infections, etc.

In this aspect, the course is in accordance with the mandatory course and the College's vision, once it embarks innovation and technology drivers and considers opportunities explored globally that can be applied locally with the aim of developing scientific, technical, clinical and market goals.

DENT 606.1: Esthetic Post and Resin Core Foundation for Endodontically Treated Tooth

Dentists are constantly challenged on the selection of various options of placing a foundation for an endodontically treated tooth. This course will review different types of foundation and focus on esthetic foundation for ceramic extra-coronal restoration. This course is designed for participants to be able to execute the technique sensitive steps to provide an esthetic foundation.

Prerequisite(s): DENT 440

Rationale: Esthetic post and core foundation is a technique sensitive procedure, participants will gain understanding and enhance their clinical skills and scientific knowledge in providing esthetic core foundation for ceramic crown restoration.

Restoration of endodontically treated teeth with glass ceramic restorations requires tooth colored post and core to achieve an esthetic outcome. Participants will learn how to select appropriate foundation for a particular scenario, adhesive post cementation, post selection, and esthetic core build-up.

DENT 607.1: Social Responsibility in Dentistry

This course will focus on patient care to be provided in a socially responsible, Inclusive, and comprehensive manner in the College of Dentistry Outreach Clinics. Students will learn about the foundational principles and key considerations in social responsibility in dealing with the patients from priority populations. Students will also participate as clinical providers in community dental clinic settings for a variety of target populations, including homeless, inner-city, working-poor, new immigrant, living with HIV/AIDS, elderly, developmentally disabled, and Indigenous populations. The procedures from multiple disciplines will be able to be done at the same appointment, if deemed appropriate at the time.

Prerequisite(s): Must have successfully completed Year 3 of the DMD Program

Rationale: This course will provide an opportunity to Year 3 DMD students (going into Year 4) to learn about a holistic and socially responsible approaches to Dentistry, especially while serving the priority populations. The students will also get an opportunity to provide treatment under supervision of a licensed dentist and experience comprehensive care provision in multiple outreach clinics. Currently, the students do not have such opportunity to get an exposure in a clinical setting during the Summertime. This course will better prepare the students going into year 4 with a valuable clinical experience serving the priority populations.

The enhanced student clinical activity during this time will also ensure the continuity of patient care in the outreach clinics, with seeing a greater number of patients per day in these clinics

College of Graduate and Postdoctoral Studies, University Course Challenge – March 2022

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

Electrical Engineering

New course(s):

EE 801.3 Radiation Tolerant Integrated Circuits

The class introduces the radiation environments mainly space and ground level, and the radiation effects on the integrated circuits. The mitigation approaches at circuit and system levels will be introduced and discussed. The mitigation techniques to be studied include temporal and spatial redundancy for logic gates, storage cells, and digital systems.

Prerequisite(s): CME 342 or equivalent.

Instructor(s): Li Chen

Rationale: Over the last four decades, complementary metal-oxide-semiconductor (CMOS) technology scaling has remarkably improved integrated circuits (ICs). However, due to the small device dimensions and low operating voltages, nanoscale ICs have become highly sensitive to operational disturbances, such as signal coupling, supply and substrate noise, and single event effects (SEEs) caused by ionizing particles. SEEs in ICs can generate transient pulses in circuit nodes or data upsets in storage cells, which are normally referred as soft errors. In a well-designed IC, SEEs appear to be most troublesome in environments that are terrestrial with high altitudes or in space environments. SEEs have been reported in microprocessors, memories, network switches and routers, the configuration bits in field programmable gate arrays (FPGA), and even implantable medical devices. The soft error rate can be considerably higher than the hard failure (gate oxide breakdown, metal electromigration, latch-up, etc.) rates in ICs. The situation can be further exacerbated for aerospace instruments, which are subject to harsh radiation and temperature environments. The system and component companies such as Cisco, Micrchip, etc, are facing more and more the reliability challenges caused by single event effects. It is important for graduate students who working in silicon industry to get themselves familiar with radiation effect background, and equipped with the mitigation knowledge, which will assistant them in their future career.

Educational Psychology & Special Education

New course(s):

EPSE 846.3 Quantitative Design and Data Analysis

This course focuses on the principles of frequently used quantitative research designs in educational and psychological research and associated data analysis techniques. Students will develop knowledge of, and skills in, understanding statistical models, matching statistical models to research designs, using computer software to conduct statistical analyses, and interpreting/reporting findings.

Prerequisite(s): Admission into the master's or doctoral program in the Department of Educational Psychology & Special Education (EPSE); or permission of EPSE Graduate Chair and/or Course Instructor.

Instructor(s): Amin Mousavi

Rationale: Faculty members in the EPSE department feel that graduate students need to have foundational knowledge of the varying research designs and statistical models being used in the field of Educational Psychology & Special Education to not only better understand and critique current peer reviewed research but also undertake their graduate research. This new course will move students

beyond a basic understanding of qualitative and quantitative research methods (i.e., ERES 800), statistical methods (i.e., ERES 840 and 841), and statistical procedures relevant to the understanding and evaluation of tests (i.e., EPSE 843) and allow them to expand their understanding, application, and interpretation/reporting the results of quantitative research designs and statistical models. As such, this course is distinctly different from currently offered research and statistical courses offered in the College of Education.

Business Administration

New course(s):

MBA 859.4 Financial Reporting

This course will provide the student with an introduction, from a user perspective, to the principles and procedures of financial reporting. Topics include: the objectives and users of accounting information, the mechanics of accounting including the accounting equation, transactions, the accounting cycle, and the preparation of financial statements. The use and interpretation of accounting information for investment, lending and management decision-making will be emphasized.

Prerequisite(s): MBA 885.3

Note: Students with credit for 829.3 cannot take this course for credit.

Rationale: New 4-credit course to replace MBA 829.3 Financial Statement Analysis in the MBA program.

MBA 862.4 Financial Management

This course examines finance in business decision making and shows that many decisions involve some form of financial analysis. Topics include financial math, the integration of finance and accounting, and financial analysis in Microsoft Excel. We will cover some advanced topics and current events.

Prerequisite(s): MBA 885.3

Note: Students with credit for 825.3 cannot take this course for credit.

Rationale: New 4-credit course to replace MBA 825.3 Financial Management in the MBA program.

MBA 863.2 International Business

The course is designed to provide perspective toward engaging in international business. The course will enable students to be attuned to how executives intending to have good impact in their firms pursue business opportunities globally, work with global partners, and be alert to ways to take advantage of the many resources available to Canadian enterprise in international business.

Prerequisite(s): MBA 885.3

Note: Students with credit for 878.3 cannot take this course for credit.

Rationale: This new course is designed to bring currency to the discussions based on events occurring in the world that impact Canadian enterprise.

MBA 866.2 Innovation Management

Students in this course will first understand the value of innovation (via research and experiences), then proceed to a learn-by-doing process to accelerate innovation ideas. This is a seven-step process, which include empathy, definition, ideation, business case development, prototype, test and implement. Participants will engage in the first 4 stages. Participants will engage in group processes and will use tools for brainstorming, prioritizing ideas, developing a business case and for pitching an innovation proposal.

Prerequisite(s): MBA 885.3

Note: MBA 866.2 is to be taken in the final year of a student's program. Departmental permission is required for each registration.
Rationale: The proposed course introduces innovation management. For many organizations, there is not a transparent and reliable process to allow employees to suggest and develop innovative ideas. Sometimes there is a process, but it falters with management decision-making. In many cases, employees do not know how to conduct basic analysis and prepare a business case to justify their innovative ideas. The new two credit course will introduce the concept of innovation and expose students to an Innovation Acceleration Process that remedies these concerns and provides organizations with a methodology to generate, evaluate and approve new innovations in two days.

Program Revision – M.B.A., M.B.A./J.D., M.B.A./Pharm.D. Programs
Changes proposed for implementation in 2022-23, as follows:

Master of Business Administration (M.B.A.) - Course-based

A minimum 45 credit units including the following:

- MBA 803.3 Business and Society
- MBA 813.3 Strategic Human Resources Management
- MBA 819.3 Marketing for Organizational Decision Making
-
- MBA 828.3 Tactical Strategy
-
- MBA 830.3 Operations Management
- MBA 846.3 Introduction to Entrepreneurship and Venture Development
- MBA 859.4
- MBA 862.4
- MBA 863.2 or an approved elective from an international partner institution or an Edwards taught abroad course
- MBA 865.3 Accounting for Planning and Decision Making
- MBA 866.2
- MBA 870.3 Corporate Finance
- MBA 877.3 Leadership and Organizational Dynamics
- MBA 885.3 Essential Management Skills
- MBA 992.3 Edwards MBA Capstone Project

Deleted: MBA 825.3 Financial Management

Deleted: MBA 829.3 Financial Statement Analysis

Deleted: <#>MBA 878.3 International Business and Global Marketing¶

Deleted: <#>MBA 889.3 Integrative Modules¶

Program Revision
Doctor of Pharmacy (Pharm.D.) and Master of Business Administration (M.B.A.) Combined Degree Program

Degree Requirements (202 credit units)

Students must complete the following course requirements:

Business Administration Courses:

- MBA 803.3 Business and Society
- MBA 813.3 Strategic Human Resources Management
-
- MBA 828.3 Tactical Strategy
- MBA 830.3 Operations Management
- MBA 846.3 Introduction to Entrepreneurship and Venture Development
- MBA 859.4
- MBA 862.4
- MBA 863.2 or an approved elective from an international partner institution or an Edwards taught abroad course
- MBA 865.3 Accounting for Planning and Decision Making
- MBA 866.2
- MBA 870.3 Corporate Finance
- MBA 885.3 Essential Management Skills
- MBA 992.3 Edwards MBA Capstone Project

Deleted: MBA 825.3 Financial Management

Deleted: <#>MBA 829.3 Financial Statement Analysis¶

Deleted: <#>MBA 878.3 International Business and Global Marketing¶

Deleted: <#>MBA 889.3 Integrative Modules¶

Program Revision
Juris Doctor (J.D.) and Master of Business Administration (M.B.A.) Combined Degree - Course-based

Degree Requirements

- MBA 803.3 Business and Society
- MBA 819.3 Marketing for Organizational Decision Making
- MBA 828.3 Tactical Strategy
- MBA 830.3 Operations Management
- MBA 846.3 Introduction to Entrepreneurship and Venture Development
- MBA 859.4

Deleted: <#>MBA 825.3 Financial Management ¶

Deleted: <#>MBA 829.3 Financial Statement Analysis ¶

- MBA 862.3
- MBA 863.2 or an approved elective from an international partner institution or an Edwards taught abroad course MBA 865.3 Accounting for Planning and Decision Making
- MBA 866.2
- MBA 870.3 Corporate Finance
- MBA 885.3 Essential Management Skills
- MBA 992.3 Edwards MBA Capstone Project

Deleted: ¶

Deleted: <#>MBA 878.3 International Business and Global Marketing ¶

Deleted: <#>MBA 889.3 Integrative Modules ¶

Finance and Management Science

Program Revision
Master of Science in Finance
ECON 808 will be replaced by "one of ECON 804, ECON 808, JSGS 803, or STAT 845" as a required core course for the MSc Finance Program.

Master of Science (M.Sc.) - Thesis-based

A minimum of 15 credit units of core courses, including the following:

- One of ECON 804, ECON 808, JSGS 803, or STAT 845
- FIN 801.3 Advanced Corporate Finance
- FIN 802.3 Advanced Investment Theory
- FIN 803.3 Empirical Methods in Finance
- FIN 805.3 Fixed Income Securities
- FIN 990.0 Seminar in Finance
- FIN 994.0 Research in Finance

Deleted: ECON 808.3 Econometrics I or ECON 809.3 Econometrics II, as determined by the advisory committee

Rationale: ECON 808 primarily focuses on econometric theory. ECON 804 primarily focuses on the application of econometrics (with some discussion of theory). As such, ECON 804 may be more useful for MSc Finance students as they apply econometric techniques for their research. JSGS 803 and STAT 845 are also applied econometrics courses that may be appropriate in some cases. Furthermore, this will allow more flexibility for the outside departments who offer these courses in case they are unable to offer one or more of the courses in a particular year. The other affected departments (ECON, JSGS, and STAT) have been consulted and will maintain authority to admit MSc Finance students into their courses.

Nursing

Minor program revision
Master of Nursing: Nurse Practitioner

36 credit units, including the following:

- NURS 818.3
- NURS 875.3
- NURS 878.3 Practicum III Advanced Nursing Practice with Vulnerable Populations
- NURS 879.3 Advanced Diagnostic Reasoning
- NURS 880.3 Practicum I Advanced Nursing Practice in Primary Health Care
- NURS 881.3 Pathophysiology- Pharmacotherapy for Advanced Nursing Practice I
- NURS 883.3 Theory for Advanced Practice Nursing Roles and Primary Health Care
- NURS 884.3 Advanced Health Assessment
- NURS 885.3 Nursing Therapeutics I Individual to Community
- NURS 886.3 Pathophysiology-Pharmacotherapy for Advanced Nursing Practice II
- NURS 888.3 Practicum II Nursing Therapeutics and Advanced Management
- NURS 821.3 Outcomes Based Research
- NURS 990.0 Seminar

Rationale: Currently, most students enroll in NURS 818. To simplify the degree requirements in the Course and Program Catalogue, Nursing wishes to make NURS 818 the only choice listed. If a student wishes to take an equivalent course outside the College of Nursing in the future, the unit will consider granting transfer credit at that time.

Deleted: 3 credit unit 800-level Statistics, typically

Deleted: Statistical Methodology in Nursing