AGENDA ITEM NO: 5.10

UNIVERSITY COUNCIL

ACADEMIC PROGRAMS COMMITTEE

ITEM FOR INFORMATION

PRESENTED BY: Carolyn Augusta, Chair, Academic Programs Committee

DATE OF MEETING: January 30, 2025

SUBJECT: **College of Engineering First Year Program Changes**

ACTION: **For Information Only**

CONTEXT AND BACKGROUND:

The College of Engineering is proposing an introduction of GE 183.2 as a new course to the first year curriculum as well as the creation of an elective list in the winter term resulting in a 2 credit unit program reduction.

The introduction of GE 183.2 is to equip first year Engineering students going into the Civil, Geological, and Environmental Engineering programs with the unique topics required in their upper-year courses which are not adequately covered in the current first year curriculum.

The introduction of the winter elective course list (one of GE 153.2, GE 163.2 or GE 183.2 instead of requiring students to take both GE 153.2 and GE 163.2) will reduce the volume of work in the winter term for first year engineering students. The first year teaching team has made significant and intentional efforts to reduce students' workload in Term 1 (i.e., Fall term) without compromising key pedagogical content that must remain in existing courses.

This curriculum change enhances how the needs and interests of students are pragmatically addressed in the winter term. As a result, this modification is intended to increase students' motivation to pursue engineering (and their chosen major) by having them focus on course materials that are of more direct value to them, sooner and more specifically in their first year learning experience as engineering students.

CONSULTATION:

On January 8, 2025, the College of Engineering brought forward a proposal to the Academic Programs Committee of Council (APC). Members had the opportunity to review the proposal and ask questions. The Committee voted in favour of the change.

ATTACHMENTS:

1. College of Engineering First Year Program Changes

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UNIVERSITY OF SASKATCHEWAN
Governance Office

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Proposal for New Programs or Curricular Changes

Title of proposal: Minor Curricular Changes to Existing First Year Engineering (CE) Program

Degree (s):	Bachelor of Science (B.Sc.) in Engineering
Field (s):	Engineering
Level (s) of Concentration:	First Year
Option (s):	N/A
Degree College:	Engineering
Contact Person (s):	Ms. Temi Ojo, Tel: (306) 966-3201, temitope.ojo@usask.ca.
Proposed Date of Implementation:	May 01, 2025

Proposal Document

Please provide information which covers the following subtopics. The length and detail should reflect the scale or importance of the program or revision. Documents prepared for your college may be used. Please expand this document as needed to embrace all your information.

Academic Justification

a. *Describe why the program would be a valuable addition to the university from an academic programming perspective.* *(Please see attached detailed college-level motion and rationales. This has been included in a Word document)*
b. *Considering strategic objectives, specify how the new program fits the university signature areas and/or institutional plans and/or the college/school and/or department plans.* *(N/A)*
c. *Is there a particular student demographic this program targets, and if so, what is that target? (e.g., Indigenous, mature, international, returning)* *(No change to current program)*
d. *What are the most similar competing programs in Saskatchewan and Canada? How is this program different?* *(N/A for this minor curricular change)*

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Admissions

The ***Admission Framework*** document must be reviewed to determine how an applicant will be considered for admission. There are several factors to consider when creating a new program. The Manager, Admissions and Transfer Credit, can assist in the development of the criteria. Information determined here should then be used to inform the completion of an Admission Template as found on https://programs.usask.ca/programs/admission-requirements.php.

a. **What are the admissions requirements** of this program – high school subjects, secondary or post-secondary standing, minimum averages, English proficiency, and minimum scores on standardized tests? *(N/A - no change)*
b. **What are the selection criteria** – how will you rank and select applicants? For example, ranking by admission average, admission test scores, interview scores, departmental recommendations, auditions, portfolios, letters of reference, admission essays, and definition of essential abilities for professional practice? *(N/A - no change)*
c. **What are admission categories** – regular admission, special admission, and Indigenous equity admission? *(N/A - no change)*
d. **What are the admission models** – direct entry, non-direct entry, ranked competitive or cut-off average? Is a confirmation of admission required? *(N/A - no change)*
e. **Intake –** how many seats are required to be filled – for first year and transfer students, reserved for Indigenous, Saskatchewan, out-of-province, and international students? *(N/A - no change)*
f. **What are the application process and timelines –** September or January intakes, online application, application and document deadlines, and scholarship deadlines to consider? *(N/A - no change)*
g. **Which office will manage the admission process –** TLSE, college, department, or a combination? *(N/A - no change)*
h. **Marketing and Promotion of New Program –** consideration needs to be given to a communications plan and marketing of the new program. *(N/A - no change)*
i. **Admissions Appeal –** what will this process be. *(N/A - no change)*
j. **Transfer Credit –** when will this be assessed and by which office?

These changes will not impact the current Admissions Office transfer credit processes

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Description of the program

a. What are the curricular objectives, and how are these accomplished? *(N/A - not a new program)*

b. Describe the modes of delivery, experiential learning opportunities, and general teaching philosophy relevant to the programming. Where appropriate, include information about whether this program is being delivered in a distributed format. *(N/A - not a new program)*

c. Provide an overview of the curriculum mapping. *(N/A - not a new program)*

d. Identify where the opportunities for synthesis, analysis, application, critical thinking, problem-solving are, and other relevant identifiers. *(N/A - not a new program)*

e. Explain the comprehensive breadth of the program. *(N/A - not a new program)*

f. Referring to the university "Learning Charter", explain how the learning pursuits are addressed and what degree attributes and skills will be acquired by graduates of the program. *(N/A - not a new program)*

g. Describe how students can enter this program from other programs (program transferability). *(N/A - not a new program)*

h. Specify the criteria that will be used to evaluate whether the program is a success within a specified timeframe. *(N/A - not a new program)*

i. If applicable, is accreditation or certification available, and if so, how will the program meet professional standard criteria? Specify in the budget below any costs that may be associated. *(N/A - not a new program)*

Consultation

a. Describe how the program relates to existing programs in the department, in the college or school, and with other colleges. Establish where students from other programs may benefit from courses in this program. Does the proposed program lead into other programs offered at the university or elsewhere? *(N/A - not a new program)*

b. List units that were consulted formally and provide a summary of how consultation was conducted and how concerns that were raised in consultations have been addressed.

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Attach the relevant communication in an appendix. *(Extensive College meetings, discussions, and consultations done)*

c. Proposals that involve courses or other resources from colleges outside the sponsoring unit should include evidence of consultation and approval. Please give special consideration to pre- and co-requisite requirements when including courses from other colleges. *(N/A, only the College of Engineering will be impacted by these minor changes)*

d. List other pertinent consultations and evidence of support, if applicable (e.g., professional associations, accreditation bodies, potential employers, etc.)

Consultation within the College was conducted to ensure that no adverse impacts to accreditation units (AU) will result in the future

Budget

The ***Budgetary and Financial Implications Form*** must be completed to determine the cost impact of the proposed program. **Information about budget and financial implications appears in that form.**

College Statement

Please provide here a statement from the College which contains the following:

- Recommendation from the College regarding the program.
- Description of the College process used to arrive at that recommendation.
- Summary of issues that the College discussed and how they were resolved.

Related Documentation

In the submission, please attach any related documentation which is relevant to this proposal, such as:

- Relevant sections of the College's/School's plan. *(N/A - due to the minor nature of these changes)*
- Accreditation review recommendations. *(N/A - due to the minor nature of these changes)*

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- Letters of support - if courses from colleges outside the sponsoring unit are required, please include letters of support for each. *(N/A - due to the minor nature of these changes)*
- Memos of consultation. *(If the Governance Office would like a copy of the UAPC meeting minutes, please advise)*
- External Agreements – if the new program or major revision is dependent upon an external partnership or agreement, this must be completed and included. *(N/A)*

Consultation Forms

Attach the following forms, as required. Required for all submissions:

☑ Consultation with the Registrar form (Note: this form will be completed by SIS during the Consultation with the Registrar meeting. Completion is based upon the proposal and the meeting discussion; no preliminary work from the college is required).

☑ Budget forms, including tuition.

☑ Complete Catalogue entry, if proposing a new program, or excerpt of existing program with proposed changes marked in red.

- Please include admission requirements, complete program of study, and all new, deleted or changed courses in the entry. *(N/A - no change)*

□ Entry for marketing website: admissions.usask.ca/programs/find-a-program OR gradprograms.usask.ca as appropriate. *(N/A - no change)*

□ Entry for the Tuition website: students.usask.ca/money/tuition. *(N/A - no change to tuition)*

Required for all new courses:

☑ New Course Proposal Form.

Required if resources needed: Please consult the attached checklist below for a list of necessary forms to be completed and included in the application package.

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Submission of Form: Please submit all completed Proposal for Curricular Changes and other required forms to this email address: academic_programs@usask.ca.

Academic Programs Approval Process

Checklist of forms and consultations to be completed before submission of a *Proposal for New Programs or Curricular Changes* to Academic Programs Committee of Council

	Required Consultation/Office	Required Form (As Applicable)	Date Completed (If not required, briefly explain why)	Who did you meet with?
1	Consultation with other colleges, re: impact or similar programs.	N/A	*N/A*	*N/A*
2	Financial Sustainability/Tuition Review.	*Budgetary & Financial Implications Worksheet*	*College will be in contact w/ SFO*	*Likely to contact Ms. Kyla Shea*
3	Consultation with Manager, Admissions & Transfer Credit.	*Admissions Template*	*N/A*	*N/A*
4	Budget Consultation with Institutional Planning & Assessment.	*Budgetary & Financial Implications Worksheet*	*College will be in contact w/ SFO*	*Likely to contact Ms. Kyla Shea*
5	Provost sign-off on Budgetary & Financial Implications Worksheet.	*Budgetary & Financial Implications Worksheet*	*College will be in contact w/ SFO*	*Likely to contact Ms. Kyla Shea*
6	Secure College Faculty Council Approval.	• *Proposal for Academic or Curricular Change Form* • *Completion of Physical Resource and Space Requirement Form* • *Completion of Library Requirement Form* • *Completion of ICT Requirement Form*	*Will be circulated on Nov. 2024 Faculty Council* *N/A* *N/A* *N/A*	

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		• *Completion of New Course Creation Form* • *Completion of Catalogue Entry*	*Will be circulated on Nov. 2024 Faculty Council* *Will be circulated on Nov. 2024 Faculty Council*	
7	(For Graduate Programs) Secure College of Graduate & Postdoctoral Studies Approval.	(As above)	*N/A*	
8	Consultation with Registrar	*Consultation with the Registrar Form (completed during the consultation)*	*Yes: Meeting held on Oct. 10, 2024*	

Updated August 2023

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New Course Proposal & Creation Form

1. **Approval by Department Head or Dean**

   1.1 College or School with academic authority: College of Engineering

   1.2 Department with academic authority: School of Professional Development

   1.3 Term from which the course is effective: Winter 2026

2. **Information required for the Catalogue**

   2.1 Label & Number of course: GE 183

   2.2 Academic credit units: 2

   2.3 Course Long Title (maximum 100 characters): Mechanics and Problem Analysis in Civil, Geological, and Environmental Engineering

   Course Short Title (maximum 30 characters): Problem Analysis in CGEE

   2.4 Total Hours: 24 Lecture, Seminar, 9 Lab, Tutorial, Other

   2.5 Weekly Hours: 4 Lecture, Seminar, 3 (alt weeks) Lab, Tutorial, Other

   2.6 Term in which it will be offered: T1, X T2, T1 or T2, T1 and T2

   2.7 Prerequisite: MATH 133.4, GE 132.1; Pre- or Co-requisite: GE 123.3

   If there is a prerequisite waiver, who is responsible for signing it?

   SoPD and College of Engineering Associate Dean Academic

D – Instructor/Dept Approval
H – Department Approval
I – Instructor Approval

   2.8 Catalogue description (150 words or less): This course develops concepts and skills that are foundational for the solution of problems in civil, geological, and environmental engineering (CGEE). Topics include: center of gravity and centroids, moments of inertia, drawing and sketching of discipline-specific drawings, application of linear algebra to CGEE problems, and equilibrium analysis of CGEE systems. Emphasis is placed on constructing free body

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diagrams of engineering systems, and on visualizing and solving problems related to these systems.

2.9 Do you allow this course to be repeated for credit? *No.*

3. Please list rationale for introducing this course

Students entering the Civil, Geological, and Environmental Engineering programs require additional instruction in the topics of the proposed course in order to be better prepared to succeed in their upper-year courses. We also want to expose students to a more diverse range of CGEE systems to give them an appreciation for the breadth of the disciplines.

4. Please list the learning objectives for this course

By the end of this course, students will be able to:

1) Calculate the centroid and moment of inertia for simple to intermediate shapes.
2) Determine the magnitude and location of the resultant force produced by a variety of distributed loads.
3) Produce the load distribution associated with systems exposed to fluid pressures.
4) Interpret the meaning of drawings commonly encountered in civil, geological, and environmental engineering, and produce proper sketches of simple forms of these drawings in various views.
5) Set up a system of linear equations for solving simple civil engineering problems, solve these systems manually and using a computer algebra system (CAS), and properly interpret the meaning of the solution.
6) Apply a CAS to solve more complex civil, geological, and environmental engineering problems formulated as a system of linear equations and properly interpret the meaning of the solution.
7) Draw complete and accurate free body diagrams (FBDs) of a wide range of systems encountered in civil, geological, and environmental engineering.
8) Solve for support reactions and internal member forces in simple determinate structures, including trusses, frames, and beams with distributed loads.
9) Set up problems for equilibrium analysis for complex determinate structures and systems, including systems with multiple member types and internal hinges, retaining structures, hydraulic structures, slope stability problems, and foundation systems; and
10) Construct shear and bending moment diagrams for simple beams.

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5. Impact of this course

- Are the programs of other departments or Colleges affected by this course? *Yes, Civil, Geological, and Environmental Engineering*
- If so, were these departments consulted? (Include correspondence) *Yes, through discussions with the Civil Engineering program committee, CGEE Undergraduate Affairs Committee, and CGEE Dept. meeting.*
- Were any other departments asked to review or comment on the proposal? *Yes, through UAPC*

6. Other courses or program affected (please list course titles as well as numbers)

2.1 Courses to be deleted?

2.2 Courses for which this course will be a prerequisite? *CE202.3, CE213.3, CE225.3*

2.3 Is this course to be required by your majors, or by majors in another program? *Yes. Civil, Geological, and Environmental Engineering majors*

7. Course outline

(Weekly outline of lectures or include a draft of the course information sheet.) See attached proposed course outline

8. Enrolment

8.1 What is the maximum enrolment number for this course? And from which colleges?

The maximum enrollment would be about 140 students (those students going into Civil, Geological, and Environmental Engineering). The students would be from Engineering.

8.2 For room bookings, please indicate the maximum estimated room size required for this course:

□ 10-50

□ 50-90

□ 90-130

☒ 130+

9. Student evaluation

Give approximate weighting assigned to each indicator (assignments, laboratory work, mid-term test, final examination, essays or projects, etc.)

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This course will be assessed using Competency Based Assessment (CBA) systems used in our First Year Program. In such CBA systems, this question is not relevant, as learning outcomes are given course weights instead of indicators such as tests and assignments. There will be assignments, labs, and module tests that will be the basis for grade calculations.

9.1 How should this course be graded? N
C – Completed Requirements
(Grade options for instructor: Completed Requirements, Fail, IP In Progress)
N – Numeric/Percentage
(Grade options for instructor: grade of 0% to 100%, IP in Progress)
P – Pass/Fail
(Grade options for instructor: Pass, Fail, In Progress)
S – Special
(Grade options for instructor: NA – Grade Not Applicable) If other, please specify:

9.2 Is the course exempt from the final examination? *Yes*

10. Required text

Include a bibliography for the course.

Hibbeler, R.C. 2016. Engineering Mechanics – Statics & Dynamics. (14th ed.) Hoboken: Pearson. ISBN 9780136912378

11. Resources

11.1 Proposed instructors: *Randi Strunk, Zoe Mao***.**
11.2 How does the department plan to handle the additional teaching or administrative workload? *The overall FY teaching workload will be redistributed once GE 183 is introduced. GE 153 and GE 163 will require fewer teaching resources as a result of curriculum changes associated with the introduction of GE 183, so the total overall program workload will actually decrease slightly with the proposed curriculum changes.*
11.3 Are sufficient library or other research resources available for this course? *Yes*
11.4 Are any additional resources required (library, audio-visual, technology, etc.)? *No*

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12. Tuition

12.1 Will this course attract tuition charges? If so, how much? (use tuition category)
Yes. This course will have the same tuition category as other first-year engineering courses.

12.2 Does this course require non-standard fees, such as materials or excursion fees? If so, please include an approved "Application for New Fee or Fee Change Form". *http://www.usask.ca/sesd/info-for-instructors/program-course-preparation.php#course- fees. No*

Detailed Course Information

1. Schedule Types

Please choose the Schedule Types that can be used for sections that fall under this course: LL

Code	Description	Code	Description
CL	Clinical	PRB	Problem Session
COO	Coop Class	RDG	Reading Class
FLD	Field Trip	RES	Research
ICR	Internet Chat Relay	ROS	Roster (Dent Only)
IHP	Internet Help	SEM	Seminar
IN1	Internship - Education	SSI	Supervised Self Instruction
IN2	Internship - CMPT & EPIP	STU	Studio
IN3	Internship - General	SUP	Teacher Supervision
LAB	Laboratory	TUT	Tutorial
LC	Lecture/Clinical (Dent Only)	WEB	Web Based Class
LEC	Lecture	XCH	Exchange Program
LL	Lecture/Laboratory	XGN	Ghost Schedule Type Not Applicable
MM	Multimode	XHS	High School Class
PCL	Pre-Clinical (Dent Only)	XNA	Schedule Type Not Applicable
PRA	Practicum	XNC	No Academic Credit

2. Course Attributes

Please highlight the attributes that should be attached to the course (they will apply to all sections):

2.1 NOAC No Academic Credit

Zero Credit Unit courses that possess "deemed" CUs (Called Operational Credit Units). NOAC causesthe system to roll 0 academic credit units to academic history.

2.2 For the College of Arts and Science only: To which program type does this course belong?

FNAR Fine Arts
HUM Humanities

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SCIE Science
SOCS Social Science
ARNP No Program Type (Arts and Science)

Does this course satisfy one of the official college requirements:
ELWR – English Language Writing Requirement
ILRQ – Indigenous Learning Requirement
QRRQ – Quantitative Reasoning Requirement

3. **Registration Information (Note: multi-term courses cannot be automated as corequisites)**
   3.1 Permission Required:
   3.2 Restriction(s): course only open to students in a specific college, program/degree, major,year in program
   3.3 Prerequisite(s): course(s) that must be completed prior to the start of this course
   3.4 Prerequisite(s) or Corequisite(s): course(s) that can be completed prior to or taken at thesame time as this course
   3.5 Corequisite(s): course(s) that must be taken at the same time as this course
   3.6 Notes: recommended courses, repeat restrictions/content overlap, other additionalinformation

Restricted to students in Engineering.

Prerequisites: MATH 133.4, GE 132.1; Pre- or Co-requisite: GE 123.3

4. **List Equivalent Course(s) here:**
   An equivalent course can be used in place of the course for which this form is being completed, specificallyfor the purposes of prerequisite and degree audit checking. Credit will be given for only one of the equivalent courses.

None

   4.1 If this is a recently repurposed course number, please list the courses that are no longerconsidered to be equivalent:

*__Please note__: If the equivalent courses carry an UNEQUAL number of credit units, DegreeWorks willautomatically enforce the following, unless otherwise stated:

- If a 3 credit unit course is considered to be equivalent to a 6 credit unit course, it will

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fulfill the 6 credit unit requirement, and the student will not have to complete another 3 credit units toward theoverall number of required credit units for the program.

- If a 6 credit unit course is considered to be equivalent to a 3 credit unit course, ALL 6 of the creditunits may be used to fulfill the 3 credit unit requirement.

5. List Mutually Exclusive Course(s) here:

Mutually exclusive courses have similar content such that students cannot receive credit for both.

5.1 If this is a recently repurposed course number, please list the courses that are no longerconsidered to be mutually exclusive:

***Please note:** SiRIUS cannot enforce a situation where the exclusion goes only one way.

6. Additional Notes:

Updated 2022

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GE 183.2 Proposed Course Outline (Mechanics and Problem Analysis in Civil, Geological, and Environmental Engineering)

Topic	Approximate Lecture Hours
1. CENTRE OF GRAVITY AND CENTROID 1.1. Static Equivalency (Hibbeler 4.7 & 4.8) 1.2. Centre of Gravity, Centre of Mass, and the Centroid of a Body (Hibbeler 9.1) 1.3. Centroid of Composite Bodies (Hibbeler 9.2) 1.4. Distributed Loads (Hibbeler 4.9)	4
2. MOMENTS OF INERTIA 2.1. Definition of Moments of Inertia for Areas (Hibbeler 10.1) 2.2. Parallel-Axis Theorem (Hibbeler 10.2) 2.3. Radius of Gyration (Hibbeler 10.3) 2.4. Moments of Inertia for Composite Areas (Hibbeler 10.4)	4
3. DRAWING AND SKETCHING • Introduction to the interpretation of discipline-specific CGEE drawings	3
4. APPLICATION OF LINEAR ALGEBRA TO CGEE PROBLEMS 4.1. Review of matrix operations and linear transformations (from MATH 133) 4.2. Use of a computer algebra system (CAS, e.g. Mathematica, MATLAB, or MathCAD) for matrix operations and linear transformations 4.3. Solving systems of linear equations by matrix operations • Manually and using CAS 4.4. Simple Civil Engineering problems (e.g. trusses) as systems of linear equations • Set up problems (visualize and set up equations) • Estimate expected order of magnitude solution • Solve manually • Solve using CAS & illustrate solution – is solution reasonable? 4.5. Complex Civil, Geological, and Environmental Engineering problems (e.g., free vibration of mass-spring system, seepage below dam) • Present problem setup (visualize and provide equations) • Estimate expected order of magnitude solution • Solve & illustrate using CAS – is solution reasonable? • Illustrate importance of boundary conditions for correct solutions.	6
5. EQUILIBRIUM ANALYSIS OF CGEE SYSTEMS 5.1. Review and Practice Constructing Free-body Diagrams (Hibbeler 5.2 – 5.4) • Support reactions and internal pins • Two- and three-force members and their identification in structures • Internal member forces • Types of applied loads (concentrated, uniform, triangular) and when they occur in practice • Fluid pressure (Hibbeler 9.4 & 9.5) [time permitting] 5.2. Equilibrium analysis of statically determinate systems • Examples setting up FBDs and solving for support reactions and internal member forces in simple determinate structures (trusses, frames, beams with distributed loads) • Examples in complex determinate structures and systems (e.g., systems	7

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with multiple members of different types, internal hinges, retaining structures, hydraulic structures, slope stability, foundation systems) 5.3. Shear and bending moment diagrams for simple beams [time permitting] • Internal forces (bending moments & shear forces) in simple beams • Variation of bending moments and shear forces along length (equations & diagrams)	

Laboratories:

Lab No. 1: Interpretation of Drawings (3 hours)

- Students will be given drawings for different CGEE systems and asked to answer questions about the systems.

Lab No. 2: Computer Algebra System (CAS) for matrix operations (3 hours)

- Students will apply a CAS to CGEE problems that can be set up as a system of linear equations (e.g., truss, dam seepage, etc.). This includes setting up the problem, solving it, and interpreting the results.

Lab No. 3: Free Body Diagrams for common CGEE systems (3 hours)

- Students will construct FBDs for a variety of CGEE systems and use them to solve for certain parameters (e.g., pile foundation, rock bolts to stabilize a mine wall, retaining structure, building frame subjected to lateral forces, etc.).

Philosophy:

Topics are to be presented in a way that students learn how to visualize and set up civil, geological, and environmental engineering problems for analysis. This includes incorporating training in visualizing the problems as much as possible (e.g., sketching problems from different views) and getting lots of practice with sketching free body diagrams and equilibrium analysis.

Note: Topics may be re-ordered to better align with topics presented in GE 123, which runs partly concurrently.

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Supplementary Documents for Minor Curriculum changes to Existing First Year Engineering Program Submission

Note: Please see the official *Proposal for New Programs or Curricular Changes* form from the University Governance Office for most of our College of Engineering submission. However, certain supplementary components will be provided here.

Under the ***"Proposal Document"*** section of the official form, it indicates to provide information that will help explain and unpack the proposed curricular changes. Our college will do so drawing upon the following additional supplementary materials:

1. **Approved motion and its corresponding rationale** from our **Undergraduate Academic Programs Committee (UAPC) meeting –** held in October 2024.
2. **Proposed First Year mark-up of the future state Course and Program Catalogue** (2025-2026).
3. **Completion of New Course Proposal & Creation Form for GE 183**, and
4. **A proposed course outline, for the brand new course – GE 183.**

Please see below for the following supplementary documents. Thank you.

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Approved motions and their corresponding rationales from our Undergraduate Academic Programs Committee (UAPC) meeting – held in October 2024

MOTION 1: To introduce ***GE 183.2 - Mechanics and Problem Analysis in Civil, Geological, and Environmental Engineering*** as a new course to the first-year curriculum, effective 2025/2026 academic year.
RATIONALE 1: This is to equip the first-year Engineering students going into the Civil, Geological, and Environmental Engineering program with the unique topics needed in their upper-year courses which are not adequately covered in the current first-year curriculum.

MOTION 2: To introduce a Winter term elective list in the First Year Engineering curriculum to consist of ***GE 153.2 - Electrical Circuits II***, ***GE 163.2 - Process Engineering*** and ***GE 183.2 - Mechanics and Problem Analysis in Civil, Geological, and Environmental Engineering.*** All students will be required to take one of these three 2-credit unit (CU) courses instead of being required to take both GE 153.2 and GE 163.2, as stated in the current curriculum, effective from 2025/2026 academic year.
RATIONALE 2: The introduction of this elective course list will reduce the volume of work in the Winter term for our FY Engineering students. The First-Year teaching team has made significant and intentional efforts to reduce students' workload in Term 1 (i.e., Fall term) without compromising key pedagogical content that must remain in existing courses.
This planned curriculum change enhances how the needs and interests of students are pragmatically addressed in the Winter term. As a result, this specific curriculum modification is intended to increase students' motivation to pursue engineering (and their chosen major) by having them focus on course materials that are of more direct value to them, sooner and more specifically in their first-year learning experience as engineering students.

MOTION 3: To reduce the total First Year Engineering CUs by 2 CUs such that instead of the required CUs for Year 1 being 41-44 CUs, it will now be 39-42 CUs, effective 2025/2026 academic year.
RATIONALE 3: After extensive consultation with multiple internal college parties for the last 2-3 years, and scrutinizing student learning and assessment needs within the revised First Year Engineering program, it has been determined that it would be in the College's best interest to reduce the CU count in Year 1 to reduce the student workload. The changes in this motion will lead to the needed reduction of the required CUs in the first year by 2 CUs.

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Proposed First Year mark-up of the future state Course and Program Catalogue (2025-2026).

Year 1 (~~41-44 credit units~~ 39-42 credit units)

Year 1 will range from a total of **39-42 credit units** ~~41 to 44 credit units~~, depending upon which major field of study is chosen.

Fall Term

*The start and end dates of the courses vary, as the duration of the courses varies from 4 to 12 weeks.

- GE 102.2
- GE 112.1
- GE 122.2
- GE 132.1
- GE 140.1
- GE 152.1
- GE 172.1
- CMPT 142.3
- MATH 133.4
- **Natural Science Series**:
  Students must complete all of the following courses:
  - PHYS 152.1
  - CHEM 142.1
  - GEOL 102.1
  - BIOL 102.1

Winter Term

* The start and end dates of the courses vary, as the duration of the courses varies from 4 to 12 weeks.

- GE 103.1
- GE 123.3
- GE 133.2
- GE 143.2 (Please note: This course is not taken by students entering Civil, Geological and Environmental Engineering majors.)
- ~~GE 153.2~~

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- ~~GE 163.2~~
- CHEM 146.3
- MATH 134.3
- PHYS 156.3
- Students must complete **one** of the following 3 courses:
    - GE 183.2 (new course)
    - GE 153.2 (existing)
    - GE 163.2 (existing)

Discipline Bridge Course:

Course selection depends upon the major field of study chosen.

- CMPT 146.3 (Computer and Electrical Engineering, & Engineering Physics)
- ME 113.3 (Mechanical Engineering)
- CHE 113.3 (Chemical Engineering)
- CE 171.2 (Civil, Geological & Environmental Engineering)

Completion of a New Course Proposal and Creation form for GE 183

Please see attached GE 183.2 Course Creation form – included as a PDF document.

A proposed course outline, for the brand-new course – GE 183.

Please see attached GE 183.2 proposed course outline.

Consultation with the Registrar (CWR) – Proposal Highlights

Title of Proposal: Bachelor of Science in Engineering (B.E.) Year 1 Revisions

General Description: Minor curricular changes in Year 1 that will reduce the overall credit units for ALL B.E. programs (Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Physics, Environmental Engineering, Geological Engineering, and Mechanical Engineering) by 2 credit units. The credit units will be reduced from the current "41-44 credit units" to "39-42 credit units." Year 1 requirements are common to all of the B.E. disciplines. A new 2 credit unit elective course (GE 183 in Statics) will be added to Year 1. The existing two 2-credit-unit courses (GE 163 *Process Engineering* and GE 153 *Circuits II*) will become electives, like GE 183. Student will need to complete one of these 3 elective courses. In the current program, students must take both GE 153 and GE 163.

Degree College: College of Engineering

Effective Term: May 2025

Course implications

- One new course and some minor course revisions

Registration and classes

- Non-standard class time slots, terms, and sessions
- Changes to the Year 1 class schedule will necessitate some room scheduling adjustments; the nonstandard class schedule has been included in the proposal for Room Scheduling staff in the Registrar's Office to prepare for the changes.

Convocation

- N/A

Financial and Budget

- Standard tuition rates and per credit unit method of assessment
- Provost approved to proceed with CWR step

Student Mobility

- No unique mobility or external partners/agreements