ENGG404 Course Syllabus – Term 2024S v20240502:

Course Title: ENGG404 – Leadership in Risk Management (ESRM-LRM)

1. The Purpose of the Syllabus:

At the end of this syllabus, the student should be able to:

- Explain the course logistics and how this course is administered and delivered.
- Describe the academic expectations and professional expectations that are placed upon the student.
- Apply the content of this chapter to the benefit of the student.

Notice to students: *Given any exceptional circumstances for the term, some terms and phrases that refer to "in-class" are intended to include any in-class activities, on-line / remotely-delivered activities, or hybrid.*

2. Class and Instructor Information:

School Web-site:
https://www.ualberta.ca/engineering/engineering-safety-and-risk-management/index.html

Lecturers for this term in the School of Engineering Safety and Risk Management:

Dr. Lisa White	Industrial Professor	lnwhite@ualberta.ca
Professor Chris Coles	Director and Industrial Professor	ccoles@ualberta.ca

Office Hours and Means of Contact:

a) Instructor availability is posted on eClass – see "Professor Availability". Preference is by appointment.
b) Instructors are available for brief consultations immediately before or immediately after the lecture / seminar inside / outside the classroom.
c) Instructors and Teaching Assistants are available for the period of time after the mandatory duration in the seminars, as announced at the start of each seminar. The Instructors purposely make this time available for student consultations – take advantage of this available time.
d) Concerning email requests: Begin the message with the subject "*ENGG404 202nnt– <your issue>*" (e.g. *"ENGG404 2024S – Conflict with Final Exam Date"*). Your concern will be directly addressed. The Professor will respond within 2 business days, with an attempt to respond during business hours.

3. Course Information:

Terms offered: Fall, Winter, Spring / Summer; the course transpires over 12 to 14 weeks each term.
TA Information: Graders and Teaching Assistants will be posted on eClass.
Class time and locations: Refer to BearTracks for class times (lectures and seminars) and locations.

Course Description: *3 (fi 8) (either term or Spring/Summer, 3-3S/2-0) Basic concepts of risk and consequences of loss incidents; risk management principles and practices; incident investigation, causation, root cause analysis; process safety management; the roles of government agencies, professional bodies and industry associations; workplace safety; risk-based decision-making processes; leadership and the human-factors side of risk management. The course focuses on the principles and practices of leadership towards the effective application and implementation of risk management in major organizations across all engineering disciplines. Industry virtual tours, case studies, seminars and team projects specific to the student's engineering program will be used to develop competencies and proficiencies in applying leadership and organizational effectiveness for successful risk management.

Prerequisite: None. See ***Special note on restrictions*** below.

Asynchronous & Synchronous Course Content Delivery and Hybrid Instruction:

- Asynchronous graded components of the course term work are: All online quizzes, online assignments, submitting the Team Project Progress Report and Final Report, and the ITP Metrics Survey.
- Synchronous graded components of the course term work are: The Team Project Preliminary RCA Chart Review, ePoll in-class quizzes (if applied), and the Final Exam.

To fulfil the requirements of the Canadian Engineering Accreditation Board for "contact hours", all lectures and seminars are on-campus and synchronous i.e. no hybrid teaching and no remote learning, except as noted.

- All lectures will be delivered synchronously and on-campus.
- All Team Project Seminars will be delivered synchronously. Attendance is mandatory.
- The Hub Oil Loss Incident Seminar will be delivered synchronously. Attendance is mandatory.
- The Preliminary RCA Chart Review, a team project graded activity, will be delivered on-line using ZOOM or GoogleMeets or other online meeting tool; a video recording is allowed for subsequent review. Attendance is mandatory.
- Guest speaker presentations may be delivered remotely. Some may be synchronous and some may be asynchronous. Attendance is mandatory.
- For the above requirements where attendance is mandatory, a deduction for non-attendance may be assessed. See below for details.

- Team Project work may require you to work synchronously with your team-mates: in-person / face-to-face or remotely is acceptable.
- Exception: In the case of instructor illness, recorded lecture material will be made available on eClass for asynchronous delivery.
- Exception: In case of the re-imposition of pandemic public health restrictions, hybrid / remote / on-line delivery and learning may be re-implemented.

Lab Sections: None.
Seminar Sections: As posted in BearTracks.

4. Course Objectives & General Content:

About the Course:
This is a course that takes a real and realistic look at Leadership in Risk Management in today's industrial and institutional workplaces. With this in mind, the course design is intended to model the real workplace for professional engineers not only in the learning and application of risk management principles and practices, but also in the behaviours expected of future professional engineers as leaders in risk management.

This course will provide key elements to effectively manage risk and deliver on management accountability for safe and reliable operation.

You will gain knowledge of the fundamental elements needed in order to effectively understand, manage, and lead organizations with engineering safety and risk management as the foundation.

ENGG 404 qualifies as a related course for the U of A Certificate in Sustainability. For more information on the Certificate, please go to: https://www.ualberta.ca/sustainability/study/certificate/index.html

Course Philosophy:
Our teaching and learning philosophy for ENGG 404 encourages students to be prepared and ready to engage in lectures and seminars through a blended learning approach. To prepare for each lecture and seminar, and ultimately for the final examination, we recommend that you:

- Pre-read the chapters in the Handbook, view the case study / learning videos before each lecture and seminar per the Course Plan, and complete the assigned quizzes;
- Attend all lectures and seminars;
- Participate and engage in the in-class quizzes and in-class "please confer" active learning exercises;
- Complete the assignments as these are done in the exact same manner and format as the final examination;
- Contribute your fair share to the team project and be able to describe, explain, and analyze your loss incident.

The purpose of this course is to:

- For students to build skills, competencies, and capabilities for applying sound leadership in risk management through application of the incident investigation and root cause analysis work processes, particularly concerning the implementation of introductory leadership principles and practices in both process safety and occupational safety risk management.
- Demonstrate the value of this discipline to industry in today's business environment, as well as demonstrate the importance of this expertise to the students' careers.
- Provide students with knowledge, tools, informed perspectives, and an opportunity to apply the knowledge and tools. Collectively, these will shape their attitudes, set the foundation for establishing a sound set of positive values beneficial to organizations, give the students a real life view of this field of expertise, and prepare the student as a future leader in risk management.
- Learn and work in a team environment much like to today's workplaces. This course is intended to model the real workplace for professionals and develop a culture of collaboration.

Special note on restrictions:
For any student that is considering taking ENGG404 out-of-sequence (i.e. not taking this course per your program / plan / year schedule, or during a work-term), please note that this course is positioned in and designed as a fourth year course, with a Course Weighting of 3.8 and Accreditation Units of 47.25 i.e. this is a heavily-weighted course. The intent is to work with your cohort of classmates on a team project with specific relevance to your program/plan (engineering discipline) in order to enhance your learning experience in this course.

Also, you will build on your technical knowledge, your comprehensive life experience to date, and the science of risk management leadership in order to support your imminent career paths upon graduation; thus, you should take this course in sequence per your program and plan. Exceptions: a) You are a mature (returning) student with one or more years of industry employment; b) You have completed a degree in engineering or outside of engineering, c) You are a fourth year business / commerce student.

You are strongly encouraged to NOT TAKE this course while on a work-term (or any other reason that prevents you from attending classes on campus e.g. travelling, cannot enter the country, cannot live in the Edmonton area, etc.) as it presents additional challenges. IF you are working in Edmonton area AND you plan to take this course, THEN you must have approval from your employer to take time off from work to attend lectures and seminars. We request you to notify your instructor that you are on a work-term.

This course uses a blended learning model, and attendance is needed to be successful. A significant component of the course is a team project; thus students need to attend both lectures and seminars to knowledgeably work with and contribute to the team. It is not practical to work full time (or travel, or be off-campus) and believe that you are going to be successful by taking a 400-level course when you are not able to attend lectures or seminars. The seminars and team project component do require your commitment to engage and participate at the same time as your team-mates i.e. in real-time collaboration; thus, you should not take this course while on a work-term, etc. because it is NOT fair to you and your team-mates to work asynchronously on your team project.

5. Course-level Learning Outcomes:

At the end of this course, when it is expected that the student will have mastered the content of the course, the student should be able to:

1) Appraise the safety culture of an organization, and positively influence the safety culture of that organization towards improving or sustaining the safety performance.
2) Assess and positively influence the safety leadership in an organization, and personally contribute to management leadership, commitment and accountability in that organization.
3) Apply leadership tools and programs e.g. per RME #2 RAMR, #4 MOC, #5 IRIAA, #6 PECI, to evaluate workplace conditions and practices, recommend management system improvements, and be equipped to coach others to address risks in the workplace.
4) Apply a set of incident investigation and root cause analysis tools to a loss incident; adapt those tools to a variety of engineering contexts; link latent causes to management system elements; and recommend management actions to improve the risk management system / program, and ultimately improve the safety performance of an organization.
5) Collaborate on a team to: i) apply risk management principles and practices to a loss incident, ii) prepare an incident investigation and root cause analysis report including a set of recommendations, a safety alert, a bow-tie diagram, and a business case, iii) evaluate individual performance and provide constructive feedback to team-mates.
6) Integrate and apply lessons learned from others (major case-study loss incidents, presentations by risk management leaders in industry, government, and institutions) to prevent a loss incident in your future workplace.
7) Explain relevant portions of AB OH&S Act/Regulation/Code, Alberta's Engineering and Geoscience Professions Act/Regulation, and the APEGA Code of Ethics in the application of risk management within the practice of professional engineering.
8) Recognize a situation where professional conduct and ethics may be called into question, examine that ethical dilemma, generate alternative courses of action, evaluate possible consequences, and take appropriate steps to make an informed decision to remain within the scope of professional practice.

6. Marking Scheme and Additional Notes:

Marking Scheme – the Allocation of Course Marks:

Activity / Course Component	**(A)Synchronous**	**Weight**
On-line Quizzes	Asynchronous	4%
Assignment #1 – RCA Exercise	Asynchronous	2%
Assignment #2 – The Hub Oil LI	Asynchronous	2%
Assignment #3 – Risk Management in Industry	Asynchronous	7%
Assignment #4 – Leadership	Asynchronous	6%
Quizzes and Assignments – Total:		**21%**
ITP Metrics Survey #1 Mid-Term	Asynchronous	3%
ITP Metrics Survey #2 End-of-Term	Asynchronous	4%
Team Project - Preliminary RCA Chart Review	Synchronous	2%
Team Project – RCA Chart (progress and final)	Asynchronous	8%
Team Project - Progress Report (excluding RCA Chart)	Asynchronous	2%
Team Project - Final Report (excluding RCA Chart)	Asynchronous	20%
Team Project – Total:		**39%**
Course Term Work Total:		**60%**
Final Exam	**Synchronous**	**40%**
Deductions *(see section below)***:**		variable
Total Course Mark *(less any applicable deductions)***:**		**100%**

Calculators:
No calculator policy in this course i.e. any calculator can be used.

Additional Notes:

a) Overview of Moodle on eClass and How Work is Submitted:

All sections of ENGG404 are combined on the Moodle on eClass platform (eClass). There are no differences between the sections other than scheduled times for lectures and seminars. Make sure you have access to eClass using your @ualberta.ca email account as course term work due dates, assignments, on-line quizzes, course material, and schedule updates will be posted on eClass, and announcements to that effect made through eClass. Instructions and directions for using eClass will be given at the start of the course.

Moodle on eClass is used extensively in this course to guide the student, to deliver on-line content, to post student assessments (assignments, forums, quizzes, team project components, exams), and to return all term-work. All student assessments will be submitted for academic credit through eClass on or before the due date as posted on eClass and the Course Plan. It is your responsibility to ensure your work has been properly submitted in the prescribed form. It is strongly recommended that you maintain a copy of your work.

Your marks on the term work components will be reported through eClass; however, note that eClass does not weight missed term work or other deductions, and cannot be relied upon as the accurate and precise course mark. Your final grade will be reported through BearTracks.

All assessments for course term work and the final exam are conducted on-line through assignments and quizzes on eClass/Moodle except for the preliminary RCA Chart Review meeting. With the advanced application of on-line assignments and quizzes, which includes the final exam, there is no capability to produce paper copies of assignments and quizzes. Specific instructions for writing the exams on eClass will be given in the lecture.

b) **Solutions to Term-work:**

Solutions for all term work will be posted in accordance with the Faculty Academic Policies i.e. the on-line quizzes and assignments are re-opened for viewing by students after the due dates, and the solutions are provided through the "General Feedback" or similar section of the quiz or assignment for each. Solutions cannot be provided for your team project because each project is unique; however, one or more examples of previous team projects and the detailed marking rubrics are posted as aids to students. A student may request a review of any of their term work with their professor.

c) Lectures, Class Attendance, Participation and Engagement in In-class Activities:

Lectures deliver course content in a blended-learning format. Because the student's presence at lectures (and seminars), participation in classroom discussions, and the completion of assignments are important components of this course, students will serve their interests best by regular attendance. Those who choose not to attend must assume whatever risks are involved i.e. incomplete term-work, inadequate learning experiences, and/or deductions for lack of participation and contribution.

d) Information About the Team Project and Seminars:

The major assignment in this course is a team project. The team project consists of several components as described in the Team Project Instruction Manual. Teams of 4 or 5 students are assigned by the professor. The expectation is that all teams complete all components in their entirety of the team project i.e. the preliminary reviews, and all sections, chapters, and appendices of the progress report and the final report. For a team of four, the effort to complete all sections is off-set by the effort to manage and collaborate as a team of five i.e. comparable work-load.

Seminars are used for you and your team to work on the Team Project; therefore, you MUST attend the seminar in which you are registered. These seminars are an excellent opportunity for you to collaborate with your team-mates on the team project. Seminars are mandatory and a deduction may apply for non-attendance per item "i) Deductions for Non-attendance at Seminars".

Each team member is expected to participate and contribute in a fair and equitable manner. Your mark on the Team Project may be adjusted as described under item "j) Deductions for Non-Attendance at the Preliminary RCA Chart Review Meeting" and item "l) Deductions Concerning Individual Participation and Contributions on Your Team Project".

The dates for the seminars are posted in eClass, the Course Plan, and are subject to change. Seminars are NOT scheduled for all weeks in the term. For the scheduled seminars, these have a mandatory, planned activity (e.g. an introduction, a brief overview of certain sections of the team project, instruction on material, and active learning exercises relevant to the instruction material) followed by a period of self-directed work on your team project. It has been demonstrated that making continual progress on parts of a team project results in less stress on the students and a better quality team project (and higher mark); a good fraction of teams are better than 90% complete the week prior to the due date.

e) Missed Term Work:

From the University Calendar Academic Regulations: "*Excused absences* (for missed term work) *are not granted automatically and will be considered only for acceptable reasons*" as described in the University Calendar. "*Unacceptable reasons include, but are not limited to personal events such as vacations, weddings, or travel arrangements. When a student is absent without acceptable excuse, a final grade will be computed using a raw score of zero for the work missed.*"

f) Final Grade:

The Final Grades for all students are approved by the CME Department Chair (or delegate). The office of the Dean has final oversight on all grades. Letter grades are assessed according to the **University Calendar** under section **Evaluation Procedures and Grading System**, item 4): *Assigning Grades: Grades reflect judgements of student achievement made by instructors and must correspond to the associated descriptor. These judgements are based on a combination of absolute achievement and relative performance in a class.* The final letter grade assigned is based on the student's relative ranking in the class, and the distribution of the letter grades for a 400-level course in The Faculty of Engineering approved range.

Sickness or Other Excusable Absences:

You may experience circumstances that cause you to miss completing term-work. If you miss completing an assignment, consult with your professor to resolve for excusable reasons, an extension, or determine if marks can be reallocated. Refer to the University Guideline https://www.ualberta.ca/registrar/examinations/exam-guidelines-for-instructors/what-to-do-when-a-student-is-sick Missed Final Exam is handled per University Policy and as outlined in the section below "**Examinations**".

If you are unwell, we strongly encourage you to be proactive and reach out to your instructor if you begin to fall behind in the course due to prolonged physical and/or mental illness.

g) Deductions for Late or Missed Submissions and Concerns About Marks:

For individual quizzes, individual assignments, team project progress report, and team project final technical report:

- If a student requires an extension on the due date, students MUST request the extension any time prior to the due date or within three (3) days after the due date. Extensions may or may not be granted depending on the individual's specific situation i.e. exceptional and acceptable reasons
- If the due date is missed i.e. late, students may lose 50% of the earned assignment mark for any late submissions. Submissions will not be accepted after 3 calendar days late, unless handled by exception for exceptional and acceptable reasons.
- For on-line and in-class quizzes: No extensions on due dates for unexceptional reasons.
- Any concerns over marks for any term work (assignments, quizzes, team project) must be brought forward within seven (7) calendar days of the return date.

h) Deductions for Non-attendance at Seminars:

Attendance will be taken for all on-campus/in-class seminars. No marks are awarded for attendance at seminars; however, failure to attend may result in a deduction of 2% per seminar on your final mark e.g. if you miss 3 seminars, the deduction on your final mark is potentially 6%. Each team is responsible for tracking, recording, and reporting attendance on the Team Log as described in the **Team Project Instruction Manual**. If you have an unanticipated conflict, contact the professor well in advance of the seminar so that alternate arrangements can be made. If you miss a seminar, consult with your professor to resolve for excusable reasons. In all cases, consult with your team to ensure that you are not neglecting your responsibilities towards fair and equitable contributions to your team.

i) Deductions for Non-Attendance at the Preliminary RCA Chart Review Meeting:

One component of The Team Project is the Preliminary RCA Chart Review Meeting. The Instructor checks that all participants are present for the Preliminary RCA Chart Review online meeting. No marks are awarded for attendance at the meeting; however, failure to attend may result in a deduction of 2% towards your final mark.

j) Guest lectures and Deductions for Non-Attendance at the Guest Lectures:

In the course schedule, there are a number of guest speakers from industry and government. Our guest speakers work in senior-level positions within their organizations, and they graciously and generously give their valuable time to share their expertise and perspectives on the value of leadership in risk management; this provides unique insights into these leading organizations. It should be noted that the contents of the lectures demonstrate unique insights into how agencies and businesses practice safety and risk management in the workplace. Although their application may sound specific, the topic is transferable to any industry application, and provides essential learning on what it takes to be a responsible, effective, and top leader in your organization.

The dates for the guest lectures are shown in the **Course Plan** posted on eClass. As stated previously, schedules can change due to their business demands, and the Course Plan will be updated.

Therefore, it is important that you attend these particular lectures, not only because their presentations are valuable to you, but also to demonstrate your appreciation for their support of our program. Show our guest speakers that we value their support by filling our classroom!

All guest lectures and The Hub Oil Loss Incident seminar are mandatory. Attendance will be taken for these. No marks are awarded for attendance; however, failure to attend may result in a deduction of 1% per missed guest speaker and 2% for the Hub Oil LI Seminar. For example, if you miss 6 guest speakers and the Hub Oil LI Seminar, your total deduction may be 8% (1%+1%+1%+1%+1%+1%+2%).

k) Deductions Concerning Individual Participation and Contributions on Your Team Project:

Two tools, the **Team Log** and the **ITP Metrics Peer Feedback Surveys #1 and #2** (both scoring and peer feedback), will be used to determine the overall assessment of your performance (gauge your individual participation and/or engagement and/or contributions) on your team project. Full participation, engagement, and contribution by all team members on the team project is not only encouraged BUT ALSO EXPECTED. Lack of participation and/or engagement and/or equitable contribution may result in a deduction on an individual's total team project score. A complete lack of contribution on the Team project can and will result in a 100% deduction on the marks for the Team Project (the total of the Preliminary RCA Chart Review, the Progress Report, and the Final Report).

Team Log:

The Team will keep a Team Log for each activity, seminar, and team meeting throughout the term. Students are advised to start keeping this log immediately upon being assigned to a team. The template for the Team Log will specify the information that needs to be recorded. The Team Log and the ITP Metrics Peer Feedback Survey will be used to determine the overall the assessment of your performance (your individual participation and contributions) on your team project. Refer to the **Team Project Instruction Manual** for more information about the Team Log.

The ITP Metrics Peer Feedback Surveys:

The ITP Metrics Peer Feedback Surveys (ITP) is the preferred academic survey process for peer evaluation and feedback. Refer to **The Team Project Instruction Manual** and **The ITP Metrics Peer Feedback Survey Process** for full details on the methodology.

l) Deduction on the Final Exam:

The final exam may have a number of short readings which form the case study for answering a series of questions. These case study readings may be distributed as hard-copies at the start of the final exam. If distributed, these hard copies MUST be returned at the end of the final exam. Failure to return these may result in a penalty wherein a deduction of 25% of your earned score is assessed to you on the final exam score.

m) Note to Professors that Applies to All Deductions:

This note is intended to inform professors to maintain a fair and equitable perspective on assessing deductions, or excusing those deductions. Although the student's personal situation for missing assigned term work or a mandatory lecture/seminar may seem to warrant an excuse from the mandatory item from their perspective, the academic requirements state that treatment must be fair and equitable for all students. So, a deduction shall still apply for a personal situation that does not meet the conditions for excuse (sickness, sanctioned university event, religious observation, professional appointment).

For example: A student is scheduled for a mandatory seminar and on the day after the seminar, they state that they also have a mid-term exam. The student asks that they would like to be excused from the mandatory seminar so that they can use the time to study for the mid-term exam. This is not fair and equitable to those students who manage their time i.e. can attend the seminar and study for the mid-term, because the student being excused without deduction receives an unfair and inequitable advantage over their class-mates.

n) University Policy, Academic Integrity, and Professional Conduct:

It is the student's responsibility to be aware of and understand the policies of the University that concern academic integrity, and specifically the Code of Student Behaviour, and any amendments issued by the Dean's Office of the Faculty of Engineering.

Policy: The policy about course outlines can be found in **Course Requirements, Evaluation Procedures and Grading** of the **University Calendar**.

Academic Integrity:

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University." You may want to review The Academic Integrity webpage and The Code of Student Behaviour:
https://www.ualberta.ca/current-students/academic-resources/academic-integrity
https://www.ualberta.ca/governance/resources/policies-standards-and-codes-of-conduct/code-of-student-behaviour.html

The Office of the Dean, Faculty of Engineering, has published additional points on the University's **Code of Student Behaviour, dated June 2019**. This is posted separately on eClass.

You are expected to abide by the University Academic Integrity Policies and maintain academic integrity and honesty within these boundaries. For example, it is expected that you complete the Final Exam by yourself, and that you do so without any input, assistance, or support from any other individual, or any tool such as AI tool or on-line/off-line translator. Components of your efforts on the final exam (or any other component of course term work) can be compared to others, and any findings where there is "duplicate work" may indicate plagiarism and a breach of academic integrity i.e. cheating. If substantiated, this can result in academic penalties.

Professional Conduct: As engineering students, you are also members of The Association of Professional Engineers and Geoscientists of Alberta, and are bound by the Association's Code of Ethics. Academic dishonesty also constitutes professional misconduct. Given that we are professionals, our standard is higher; thus, there is no tolerance for academic dishonesty in this course.

o) Recording Devices for Classes and Meetings:

On-campus Classes: Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s). As a rule, audio and video recording devices are NOT allowed in any lecture or seminar in this course. A student may be asked to relinquish their device for the duration of the lecture or seminar. Exceptions to this rule will be announced in class.

Online (Virtual) Classes: Classes (lectures and seminars) will not be delivered on-line/virtual/remotely.

Professor and Individual Student Meetings: For meetings between a student and their professor, the two persons shall discuss and agree on whether to meet in-person / face-to-face, or remotely, and whether to record the meeting or not. Both must give permission to record. Recordings of this nature capture the images displayed on the shared window / screen, text information in the chat utility, verbal discussion (if microphone is turned on), and live video images (if camera is turned on).

Professor and Project Team Meetings: Meetings between the Project Team and the professor are usually for the purposes of an evaluative assessment (Preliminary RCA Chart Review) or a formative assessment (review specific components of the Final Technical Report before submitting). The preferred method for the Preliminary RCA Chart Review is a remote meeting using ZOOM or GoogleMeets or other online meeting tool. These meetings provide good verbal feedback to the students and it is recommended that students record these meetings.

p) Important Information About the Final Examination Dates and Students' Responsibilities:

Final Exam Administration: The final exam will be administered on-campus through eClass, at the fixed day and time as set by the University. More information (date, time, parameters) will be widely communicated in advance of the Final Exam. Deferred final examinations and/or re-examinations are permitted in accordance with requirements in the University Calendar

Authorized Materials for On-campus Proctored Exams: Only those items specifically authorized by the instructor may be brought into or distributed at the exam facility. Only one e-device (your laptop) and an approved calculator are permitted for the final exam. Your mobile phone may be used to authenticate your DUO sign-on to UWS web-sites (eClass, etc.), but must be put away after authentication. The use of unauthorized devices with capability for communication, data-access / memory, personal listening, recording, photographic and/or computation may be prohibited. Students MUST refrain from bringing any unauthorized electronic device into an examination room.

q) Students with Accommodations:

Students with an accommodation MUST inform their professor per requirements of the University Academic Policies. It is the responsibility of the student to inform the professor of any approved accommodation in a timely manner e.g. in the first two weeks of the term, and to inform the professor if their accommodations are not being met. Failure to do so may result in your accommodation not being met.

7. Expectations for AI use - No AI Use Allowed "II":

In this course, our primary focus is to cultivate an equitable, inclusive, and accessible learning community that emphasizes individual critical, creative, and affective thinking as well as disciplinary problem-solving skills. While it is reasonable to assume AI-use might accelerate some aspects of coursework, the determination has been made to not use such tools. In order to achieve the identified course learning outcomes, students must be given learning opportunities and tasks which enable students to develop and demonstrate their skills and knowledge across course and discipline specific projects, assignments, and assessments.

To ensure a just and consistent learning experience for all students, the use of advanced AI-tools such as ChatGPT or Dall-E 2 is strictly prohibited for all academic (written/coding/creative/etc.) work, assignments, and assessments in this course. Each student is expected to complete all tasks without substantive assistance from others (except the Team Project components), including AI-tools.

IMPORTANT: Please note that AI use is strictly prohibited in course work, assignments, and assessments. Failure to abide by this guideline may be considered an act of cheating and a violation as outlined in the relevant sections of University of Alberta (November 2022) Code of Student Behaviour."

8. Textbook and Course Materials:

Text: *"A Handbook for Engineering Safety and Risk Management, Leadership in Risk Management"*; by Professor G. Winkel, Professor J.R. Cocchio, Dr. L. White, Dr. Macciotta, and Professor C. Coles; will be made available on-line. The Handbook is an aid for helping students prepare for lectures. Similar to a text book in other classes, students are not expected to read & understand all of it, nor does the Handbook follow in lock-step with the Course Plan. It should be noted that this handbook is a "work in progress" i.e. is under development, and is intended as a supplemental resource to the course content presented in classes and seminars. Course content is periodically updated with new content when our research and experience in industry identify relevant emerging issues, leading practices, or new fields of application in risk management.

Website: MOODLE eClass page for the course in which you are enrolled.

Previous Examples of Evaluative Materials: Examples of most responses to representative evaluative materials are presented in the active learning exercises, in the course lectures and seminars, and on the eClass on-line quizzes and assignments. Access to representative evaluative material on the final exam is presented as content in the topics (PPTs). The marks and the solutions for the Final Exam will NOT be posted.

No copies of the final examination for ENGG404 have been officially released. If you are in possession of a final examination for this course, you are contravening academic honesty and may be subject to severe sanctions per the University Academic Policies as described in the University Calendar. Please talk with your professor about this!

9. Lab Information:

No lab is offered in this course.

10. Course Content and Course Plan:

The **Course Plan** is the detailed schedule of all course content. Refer to the separately published **ENGG404 Course Plan** posted on eClass for the detailed scheduled dates for lecture topics, seminar topics, assignment due dates, and final exam. Schedule management for external presenters may result in changes, and these will be posted. Although the lectures will generally follow the order of chapters, some course content will weave through the lectures to provide the technical and practical components to complement teaching.

11. Accreditation Units

Accreditation Units: AU = 12.6 weeks x (3 + 0.5 (0 + 3/2)) = 47.25
Lectures: To determine number of lecture-hours = 12.6 x 3 – 1 = 36.8 or rounded up to 37 nominal lecture-hours in the term, or 37 lectures.
Seminars: To determine the number of seminar-hours = 12.6 x 1.5 = 18.9 or rounded up to 19 or 20 seminar-hours per term. This is allocated as follows: One seminar at nominal 3 hours + four seminars at 3 hours + 2 seminars at 2 hours = 19 nominal seminar hours in the course plan.

12. Graduate Attributes:

Specific Canadian Engineering Accreditation Board (CEAB) Graduate Attributes / Aspects assessed:

Professionalism: Accountability and Leadership Action Professionalism: Safety Professionalism: Limitations Professionalism: Due Diligence Professionalism: Legal Responsibilities Professionalism: Leadership Fit	Economics and Project Management: Financial Analysis Ethics and Equity: Makes Ethical Choices – Analysis, Recommendation, and Action Impact of Engineering on the Environment: Impact Assessment