

University Studies

Fall, 2021

ENGG 102E Introduction to the Engineering Profession

2 Credits, 2 Hours Lab per week

2.0 Engineering units for the University of Alberta

This course is an introduction to the engineering profession. Students will attend seminars presented by professional engineers of various disciplines. Students may also examine: engineering disciplines; co-operative education; study skills; career fields and work opportunities; history and development of the profession; professional responsibilities; ethics; and engineering and society. Interaction with local professional engineers may involve a resume critique and mock interview session, and also attendance at a local professional engineering conference.

NOTE: ENGG 102 is restricted to Engineering students

Instructor

Instructor: Neil O'Donnell

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Office Hours (Fall 2021)

| | |
|-----------|--------------------|
| Monday | 3:00 – 4:00 pm |
| Wednesday | 11:00 – 12:00 noon |
| Thursday | 2:00 – 4:00 pm |
| Friday | 11:00 – 12:00 noon |

Other times are possible, by appointment

Hours of Instruction

Tuesday 6:30 – 8:30 pm Room S214

Resources

Introduction to Professional Engineering in Canada, Fifth Canadian Edition, 5/E

Andrews / Aplevich / MacGregor / Fraser ISBN 978-0-13-420448-2

Optional Resources (Recommended)

A Canadian Writer's Reference. D. Hacker, Bedford/St. Martin's Press.

Course Outcomes

Upon successful completion of the course, students will be able to:

- Explain and contrast the various traditional and emerging disciplines within the engineering profession.
- Conceptualize ethical problems in engineering, and formulate possible solutions.
- Examine and give examples of career paths (pre- and post- degree) presented by guest speakers from the engineering industry.

- Organize networking contacts with industry representatives to facilitate possible summer employment.
- Write reports and assignments in proper engineering style.

Advice to Prospective Engineers

Engineers are problem solvers. If you want to succeed in engineering it is important that you learn how to organize your thoughts, to analyze, set up, and solve problems and to experience the often frustrating trials that arise in doing so. The best way to learn and retain knowledge is by practicing; the more problems you attempt and complete, the more experienced and confident you will become.

Engineering is a demanding profession: you must be able to clearly articulate solutions to complex problems in a timely manner. This course will encourage you to develop the work habits and skills necessary to submit clear and concise work on deadline. To reinforce this, keep in mind that sloppy work will not be graded in any component of this course, and late work will also not be accepted.

Teamwork is pervasive in engineering, but this is an activity that takes place among competent peers. Teamwork is a privilege that comes with competence. It is not a way to get by when you lack the skills to do the work yourself. In this course, working in groups can be helpful and is not discouraged, but you must be careful not to use teamwork to coast through an assignment or project; any work that you turn in must be your own (see rules on plagiarism below).

Engineering Orientation

All engineering students are required to attend a series of orientation sessions during the first week of the term. **Successful completion of the exercises on lab safety and academic integrity is a pre-requisite for submitting any written or on-line work for grading.**

Lecture Notes

You are responsible for keeping a complete record of classroom work (whiteboard notes, classroom exercises, and guest speakers) in a proper notebook. Some (but not all) guest speakers provide copies of their notes and presentations, and these will be posted on Moodle, ENGG102.

Assignments

It is important to start the reports and assignments early and not put them off until the day before they are due. Assignments must be completed via the assignment web site before the posted due dates; partially completed assignments receive the score achieved before the due date.

Evaluation

| Assignment | Percentage | Due Date |
|-------------------------------|---------------|------------------|
| Assignments, CMP Conference | 10% | Weekly, as occur |
| Ethics Workshops | 7.5% | As occur |
| Mock Interviews | 7.5% | As occur |
| Reports on 5-7 Guest Speakers | 35% (5% each) | Weekly, as occur |
| Final Examination | 40% * | TBA |

*See note below under **Final Exam**

Due Dates

- To get credit for a report, you must attend the scheduled event. If you are absent, the mark recorded will be zero.
- Due Dates for reports are set for a maximum of one week following a class, video assignment, workshop, technical conference, lecture, or guest presentation.
- More than one week late – zero assigned.

- Unless specified differently by instructor, reports, and assignments will be submitted electronically via Moodle.
- Any changes due to special circumstances will be communicated by the instructor at the class and also via Moodle. Students should check regularly.

Term Mark

- Term mark will be determined from all the reports, and assignments, and the mark will be the weighted average of all submissions.

Final Exam

- If 20% or more of submissions are missing, student will not be allowed to write the final exam. This rule applies, even if the submission has a zero grade.
- The final written exam will be based on the content of the presentations given in class during the semester (where possible, presentations by guest speakers will be posted on the Moodle site for review).
- Students are required to achieve a grade of 50% or higher on the final exam to successfully complete the course and receive credit in ENGG 102.

Grading System

- Pass – You have successfully completed the course and received credit.
- Fail – You have failed to successfully complete one or more of the required components in the course and have not received credit. ENGG 102 is a requirement of your Engineering degree program and you must successfully complete it in order to receive your degree.

Proposed Schedule of Topics

Classes will consist of a variety of elements, such as - lectures by the instructor or professional engineers from industry, video assignments, technical conferences, APEGA meetings, or other special presentations. The proposed schedule will be presented at the first class on Tuesday, August 31, 2021.

A number of formats for the learning of course content will be used. Details of the presentation format, term work, assignments, and text references for the content will be given as the course progresses. The order in which these topics are addressed and the time spent on each may vary, depending on the availability of guest speakers. It is your responsibility to obtain such material and information by attending class regularly. You will be expected to actively interact with our guest speakers. Together, we can make this class a productive and practical learning experience.

Please Note:

Date and time allotted to each topic is subject to change.

Performance Requirements and Student Services

Student Responsibilities

It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the [Keyano College credit calendar](#). The Keyano College credit calendar also has information about Student Rights and Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies.

Laboratory Safety

Students must complete the *WHMIS for Students* online training course on Moodle before entering the science laboratories.

Students must comply with the mandatory laboratory safety rules for this course as provided in the laboratory manual. Failure to do so will result in progressive discipline such as a verbal warning, refused entry into the laboratory, or suspension from the College.

Before entering the lab, students are responsible reviewing the lab manual and relevant Safety Data Sheets for the purpose of evaluating risks associated to health. Some hazards used in the laboratory may have additional risks to those with pre-existing medical conditions.

Student Attendance

Class attendance is useful for two reasons. First, class attendance maximizes a student's learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and notes that may be due.

Academic Misconduct

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person's work as one's own;
- The use of unauthorized aids in assignments or examinations (cheating);
- Collusion or the unauthorized collaboration with others in preparing work;
- The deliberate misrepresentation of qualifications;
- The willful distortion of results or data;
- Substitution in an examination by another person;
- Handing in the same unchanged work as submitted for another assignment; and
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies.

In order to ensure your understanding of the concept of plagiarism, you must successfully complete the online tutorial found on ilearn.keyano.ca. Then print the certificate, sign it, and show it to each of your instructors. Your course work may not be graded until you show this signed certificate.

Specialized Supports

The Student Services Department is committed to Keyano students and their academic success. There are a variety of student supports available at Keyano. Due to the continuing situation with the Covid-19 pandemic, the offered support services will be implemented through a model to respond to the restrictions in force at the time. In-person and virtual services will be offered. All Alberta Health Services guidelines will be followed for in-person appointments—wear a mask, maintain two meters of physical distance, use hand sanitizer, and stay home if you are unwell.

All student services are available during Keyano business hours: Monday to Friday, 8h30-16h30. The College is closed for statutory holidays. If you require support outside of regular business hours, please inform the support service team, and we will do our best to accommodate your needs.

Accessibility Services: provides accommodations for students with disabilities. Students with documented disabilities, or who suspect a disability, can meet with a Learning Strategist to discuss their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact us to request them for the semester. Please note that requesting accommodations is a process and requires time to arrange. Contact us as soon as you know you may require accommodations. For accessibility supports and to book an appointment, please contact accessibility.services@keyano.ca.

Accessibility Services also provides individual and group learning strategy instruction for all students, as well as technology training and supports to enhance learning. Meet with a Learning Strategist to learn studying and test-taking strategies for online classes. Schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing accessibility.services@keyano.ca

Wellness Services: offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators offer a safe and confidential environment to seek help with personal concerns. Students may access services virtually and in-person.

Wellness Services welcomes students to participate in any of the group sessions offered throughout the academic year addressing topics including mindfulness and test anxiety.

Individual appointments can be made by emailing wellness.services@keyano.ca.

Library Services: provides students with research and information supports as they engage in their studies. Library staff are available to support you both online and in-person throughout the semester. For a detailed list of library supports and services, go to www.keyano.ca/library. For all inquiries, please email askthelibrary@keyano.ca or chat with us online.

Begin your research with the [Library's FIND page](#). Search for information and sources for your assignments using the OneSearch, the Library's Catalogue, or by searching in a specific database selected from the [A-Z Database List](#).

Individual support with us is available. For support with citations, research and other information needs, appointments can be booked using the online [Book A Librarian Calendar](#). For support with Moodle, educational tools for assignments, Microsoft Office, Zoom, Teams and more, book an appointment using the online [Educational Technology Support Calendar](#).

Research and subject guides are helpful resources when beginning your research, assignment, using new educational technology, or addressing other information needs. To view a subject or course-specific guide, check out the complete listing of online [Subject Guides](#).

To access additional research resources, including Citation Guides (APA, MLA, Chicago, or IEEE), go to the [Research Help Library page](#).

The Loanable Technology collection is available to support students in their learning pursuits, whether online, in person or both. Items available for borrowing include mobile projectors, webcams, noise-cancelling headphones, Chromebooks, and laptops. For an up-to-date list of technology available for borrowing as well as support available, go to the Library's [Loanable Technology webpage](#).

Academic Success Centre: The Academic Success Centre is a learning space in the Clearwater Campus (CC-119) at Keyano College. Students can gather to share ideas, collaborate on projects, get new perspectives on learning from our Academic Content Specialists, or use the Centre's educational resources. The Academic Success Centre provides academic support services to students registered in credit programs at Keyano College in the form of individual tutoring, writing support groups, facilitated study groups, workshops, and study space. Services are **free** to Keyano students.

Academic Content Specialists are available in the areas of Math, Science, Human Services, and English/Humanities. This covers all courses offered at Keyano. The Academic Success Coach can also be found in the Academic Success Centre.

For the most up to date information on how to book a session, please view [the Keyano Academic Success Centre homepage](#).

Academic Integrity: The goal of the Academic Success Centre is to foster a student's ability to learn effectively and independently. Students registered at Keyano College are welcome to drop by the Centre to visit with any of our Academic Content Specialists to discuss their academic concerns.

Availability: Monday to Friday: 8:30 a.m. – 4:30 p.m. Flexible times may be available upon request. Virtual and in-person sessions, please email to get in contact with our Academic Content Specialists. For the most up to date information on how to book a session, please view the [Academic Success Centre homepage](#).

Academic Success Coach: offers you support and access to resources for your academic success to help you to find the Keys to your Success. The Academic Success Coach will work with you to develop an academic success plan, develop your study and time management skills, and connect you with the right resources here at Keyano. Academic.success@keyano.ca is the best way to access resources during blended service delivery. The Academic Success Coach is located in the Skill Centre in CC-119 at the Clearwater Campus.

E-Learning

Technology and internet will impact your online learning experience. It's important that you can watch an online video and other course materials, take online quizzes and participate in a live class with your instructor and other students. Live/virtual classes will be hosted in Microsoft Teams or Zoom.

For all course delivery types, you will access your course resources on Keyano's learning management system, **Moodle (iLearn)**. Login in using your [Keyano username and password](#).

Keyano College operates in a Windows based environment, and having the correct tools for online learning is important. Here's a list of recommended system requirements.

Internet Speed

Minimum Internet speeds of 10 Mbps.

Recommended Internet speeds of 25 Mbps (especially if you are sharing your internet at home).

Check your internet speed with [Fast.com](#).

System requirements:

| Microsoft Windows | Apple |
|---|--|
| <p>Minimum Requirements: A Windows 10 computer/laptop</p> <ul style="list-style-type: none"> · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). <u>Microsoft Office</u> software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software | <p>Minimum Requirements: A Macintosh (V10.14 and above) computer/laptop</p> <ul style="list-style-type: none"> · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). <u>Microsoft Office</u> software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software. |
| <p><u>Recommended Requirements</u></p> <ul style="list-style-type: none"> · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free. | <p><u>Recommended Requirements</u></p> <ul style="list-style-type: none"> · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free. |
| <p>Chromebooks are not recommended as they are not compatible with testing lockdown browsers. A Microsoft Surface or iPad or iPad Pro may be possible alternatives in some program areas.</p> | |

Specific Department Requirements:

Business and OA programs require Windows 10.
 Other programs may utilize Windows based tools as well.

Computer Software

Students will be able to get access to Microsoft Office 365 for free using Keyano credentials by [clicking here](#).

Recording of Lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or by Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or course materials, this includes any recordings, slides, instructor notes, etc. on any platform. Thus no student is allowed to share, distribute, publish or sell course related content (instructor, or students) without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The [Academic Integrity Policy](#) provides additional information on Keyano College's expectations from students as members of the intellectual community.

ITS Helpdesk

If you are having issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.