Engineering Math

ENGR - 1010 001

Course Description

This course is an application-oriented, hands-on introduction to engineering mathematics. The course teaches the tools needed to solve problems commonly encountered in the first two years of core engineering courses. All topics are presented within the context of an engineering problem and reinforced through extensive examples and computational tools taken from engineering courses.

Prerequisite(s): MATH 1050 w/ C grade or better or appropriate placement score.
Corequisite(s): ENGR 1015
Semester(s): All

Course Student Learning Outcomes

- Identify (remember, understand, apply, and analyze) engineering problems commonly encountered in the first two years of core engineering science. They will then demonstrate (apply) how to use using appropriate mathematical tools including algebraic manipulation of engineering equations and formulas, right triangle trigonometry, vectors and complex numbers, sinusoids and harmonic signals, systems of equations and matrices, concepts of differentiation, integration, and differential equations.
- Compare and contrast (understand, apply, and analyze) why different mathematical techniques are more or less ideal for engineering applications.
- Validate (evaluate) course concepts using computational tools such as Excel when solving engineering problems.
- Create and verify (evaluate and create) simple mathematical models to describe engineering problems.

Course Prerequisites

Math/

Engagement Plan

Example language:

- I will respond to email within [24 hrs]. I will offer feedback on major assignments within [24 Hrs]. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.
- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Keys for Success (how to succeed in the course)

For students to be successful in this course, the following actions and student engagement activities are strongly recommended and encouraged:

1. Attend class, take notes, and participate in class activities. Complete all your assignments, and do your best.

2. Read and study the lecture notes, slides, and the relevant handouts.

3. Dedicate at least three hours outside of class for assignments for every one hour spent in class.

4. Use the STEM Learning Resource Center for free tutoring. See their hours here: https://www.slcc.edu/stem/tutoring/stem-learning-resources-hours.aspx

5. Do not hesitate to ask questions.

6. Turn on your Canvas Notifications so that when announcements are posted about the course you get notified immediately.

7. Be familiar with the late policy for this course.

Required Text or Materials

Title: Introductory Mathematics for Engineering Applications
Authors: Kuldip Rattan
Publisher: Wiley
Edition: Second

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Brief Description of Assignments/Exams

Each module begins with an overview page that includes the learning objectives and the assignments for the week. Each module also has content pages, assignments homework, this course has three the exams, those will be taken in the classroom.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
5/25/25	Roll Call Attendance	Assignment	100
9/5/25	Assignment 1	Assignment	50
9/8/25	Assignment 2	Assignment	50
9/15/25	Assignment 3	Assignment	60
9/22/25	Assignment 4	Assignment	60
9/24/25	Exam 1	Assignment	100

Due Date	Assignment Name	Assignment Type	Points
9/29/25	Assignment 5	Assignment	60
10/6/25	Academic Advisor Meeting	Assignment	50
10/9/25	Assignment 6	Assignment	60
10/13/25	Assignment 7	Assignment	40
10/20/25	Assignment 8a	Assignment	50
10/27/25	Assignment 8b	Assignment	40
11/3/25	Assignment 8c	Assignment	40
11/12/25	Exam 2	Assignment	100
11/17/25	Assignment 9a	Assignment	50
11/24/25	Assignment 9b	Assignment	40
12/4/25	Assignment 9c	Assignment	50
12/8/25	Assignment 10a	Assignment	30
12/10/25	Exam 3	Assignment	100

Grading Scale

A 93-100
A- 90-92
B+ 87-89
B 83-86
B- 80-82
C+ 77-79
C 73-76
C- 70-72
D 61-69

E <60

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling

Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar