Statics and Strength of Matls

EDDT - 2160 001

Course Student Learning Outcomes

- Become familiar with the principles of statics, resultants of coplanar force systems, and equilibrium of coplanar force systems and use these principles in the analysis of structures and mechanical systems.
- Determine centroids of areas and Moments of Inertia and utilize these values in the calculation of stresses and strains.
- Understand the properties of fabrication materials that govern reactions under different stresses and apply this knowledge to the selection of material for design and fabrication.
- Evaluate designs based on stress considerations such as torsion, shear and bending stresses in beams, deflection, combined stresses, and compression in columns and pressure vessels.
- Relate the principles, formulas and problem-solving skills developed in the assignments to real-world design applications.

College Wide Student Learning Outcomes

- Acquire substantive knowledge in the discipline of their choice sufficient for further study, and/or demonstrate competencies required by employers to be hired and succeed in the workplace.
- Communicate effectively.
- Develop quantitative literacies necessary for their chosen field of study.
- Think Critically.

- Develop the knowledge and skills to be civically engaged, and/or to work with others in a professional and constructive manner.

Course Prerequisites

Math 1060 with a C or above. You must be handy with trig and algebra.

Engagement Plan

Example language:

- I will respond to email within [48 hours]. I will offer feedback on major assignments within [1 week]. 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)

Attendance every class aids in a students success. The content form each chapter builds upon the previous chapter subject

Participation by drawing Free Body Diagrams and solving the equations on the white boards during group discussions also helps with success.

Required Text or Materials

Title: Static & Mechanics of Materials
Authors: R.C. Hibbeler
Edition: 5th

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

Additional Materials

You will need a calculator with sin, cos, tan and their inverses.

Brief Description of Assignments/Exams

Weekly Chapter Homework are required

Weekly Chapter tests are required

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
9/9/25	Chapter 2 Test	Assignment	20
9/9/25	Chapter 2a Homework 17	Assignment	100
9/16/25	Chapter 3 Homework	Assignment	100
12/25/25	Extra Credit - Course and Instructor Evaluation	Assignment	0

Grading Scale

Numerical SCALE:

A 93 – 100 % C 73 – 76.9 %

A- 90 – 92.9 % C- 70 – 72.9 %

B+ 87 – 89.9 % D+ 67 – 69.9 %

B 83 – 86.9 % D 63 – 66.9 %

B- 80 – 82.9 % D- 60 – 62.9 %

C+ 77 – 79.9 % E 0 – 59.9 %

WEIGHTS:

Course Work 40% of final grade

Quizes & Exams 30% of final grade

Final Exam 30% of final grade

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

Additional Policies

POLICIES AND PROCEDURES:

1. The course schedule will be followed as closely as possible. However, some modifications may be necessary.
2. Attendance is expected. You will be accountable for all information you miss due to your absence. This includes, but is not limited to, in-class announcements. You will

not be allowed to make up quizzes, in-class projects, group exercises, or extra credit assignments completed during class time.

3. The coursework for this class consists of homework (exercises and projects) and in class work (quizzes, projects, group work). Homework will be collected, reviewed for completeness. Practice is crucial for the mastery of any engineering discipline.
4. It is your responsibility to know the deadlines and manage your time efficiently in order to meet these deadlines.
5. There will be exams and quizzes throughout the course and there will be a final exam. As we get into the course, you will understand that an answer without units or with incorrect units is always wrong.
6. The final exam will be comprehensive. The final exam schedule is set, you must arrange to attend the final.