ENGR 002: Statics (*3.0 Units*)

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Welcome

Welcome to Engineering 2, Statics. This course will give you an idea of the physics and engineering that goes into the field of Civil Engineering. Although this course is not all-encompassing for Civil Engineering, statics is commonly used when designing many critical structures.

How to Succeed

Engineering is rarely ever an individual endeavor. It is commonly said that the main tenant of Engineering is **CLEAR COMMUNICATION**. For this class, I encourage you to contact me with any concerns, related with school or not. If it is something I cannot immediately help you with, I can point you to resources that will help. This includes but is not limited to food, housing, mental health or accessibility concerns, and others.

Statics is a course that will constantly build upon itself. It is recommended that you work on the suggested problems on a daily, or near daily, basis. It is also recommended that you commit 2 hours of study per unit a week, which for this course equates to six hours of work a week.

Course Description

ENGR002 - The study of two- and three-dimensional force systems acting on particles and rigid bodies in static equilibrium. Included are analysis of distributed forces, trusses, beams, frames and machines, shear and bending moment diagrams, center of mass, centroids, friction, and moments of inertia. Additional topics may include fluid statics, forces in cables, Mohr's circle, and virtual work.

Text:

Engineering Mechanics, Statics – 10th Edition, R.C Hibbeler (Class Set). This will be passed out in class on the first day.

SLO's:

- Given a rigid body subjected to point loads, distributed loads and force couples, students will be able to draw the correct free body diagram and solve for unknown support reactions.
- Given a beam with point loads, distributed loads and force couples, students will be able to draw the shear and bending moment diagrams.
- Given a two-dimensional truss, students will be able to use the Method of Joints or the Method of Sections to solve for the magnitude of the force in each member of the truss and determine whether the member is in compression or tension.

Homework:

Although there is no graded homework in this course, there will be an assignment announced in class at the start of every exam block with problems that will be most likely either be on the exam or be directly relevant to the exam. You are encouraged to work on these problems daily.

Exams:

There will be 3 exams plus a final exam. (*Note: Partial credit will be given, so you must show all work.)* ***Exams will be taken in class.*** Each exam will cover important groups of topics where I believe it is most relevant to test for in each block. For any exam (non-final) grade below 90%, I will allow an exam correction that will give up to 5% of the exam grade. Exams are meant to test you, but they are not meant to define your course trajectory. If there are any other questions or concerns about your exams, please contact me at any time.

In Class Worksheets: Statics requires a lot of practice and repetition with respect to the problem-solving skills and techniques needed to solve these problems quickly and accurately. Because of this, you and your table will be constantly asked to solve questions, to gain extra practice and allow me to provide feedback.

Evaluation:

Exams (3)	60%	**Scale:**	90-100%	A
Final Exam	30%		80-89%	B
Quizzes	10%		70-79%	C
			60-69%	D
			Below 59%	F

Attendance: As stated before, Engineering is a team sport. Your table will be working together on many things and if you are consistently absent your table may suffer losing out on your insights and work. If attendance is an issue, please contact me to discuss further.

Conduct: Please refer to the Catalogue or Student Handbook for Code of Student Conduct. Cheating is a violation of the Code of Student Conduct and will not be tolerated in class; to do so may result in a grade of "F". It can lead to permanent expulsion from this college. Cheating includes allowing someone to copy from your work.
**You may not use a Calculator that has a Qwerty keypad on the exams.