Department of Engineering, De Anza College

ENGR 35. Statics (Spring 2021)

Instructor:	Sathish Manickam, Ph.D
Email:	sathish.manickam.school@gmail.com (or) manickamsathish@fhda.edu
Schedule	MW 06.30-09.10 PM, Online. Please log into Canvas + Zoom.
Office Hours:	T/Th, 8.30-9.00 PM, Online, Each by appointment ONLY (on Zoom)
Course Materials:	MyPortal/Canvas

Administrative Announcements

- 4 Units, Hours: 2.5 lecture, 2.5 hours laboratory (55 hours / quarter).
- General Education Status: Non-GE
- Program Status: Program Applicable
- Credit Status: Credit - Degree applicable
- Grading Method: Letter Grade
- Prerequisites: Engineering 10; Mathematics 1B; Physics 4A

Course Description (From Schedule of Classes)

Principles of statics as applied to particles and rigid bodies in two and three dimensions. Vector solutions for concentrated and distributed loads. Determination of centroids and moments of inertia and the effects of dry friction. Programming computer solutions.

Text

FP Beer, ER Johnston, DF Mazurek, PJ Cornwell, and BP Self, Vector Mechanics for Engineers: Statics, and Dynamics, 12ed., McGraw-Hill, 2019.

Alternate Texts

1. 8th – 11th editions of Beer and Johnston's text cited above (or older versions of the books listed below). Library carries many copies of these books.
2. R.C. Hibbeler, Engineering Mechanics: Statics, 13th Edition, Prentice Hall, 2012.
3. J.L. Meriam and L.G. Kraige, Engineering mechanics: Statics, 7th Ed., John Wiley, 2012.
4. E.W. Nelson, C.L. Best and W.G. McLean, Schaum's Outline of Theory and Problems in Engineering Mechanics: Statics and Dynamics, 1997.
5. S. Timoshenko and D.H. Young, Engineering Mechanics, McGraw-Hill, 1954.

If you wish to follow any other book of similar content, please talk to me first.

Academic Integrity

Please note that if you were found cheating in exams, quizzes or homework, you will automatically receive zero points for that entire exam/homework/quiz, and that you will be reported to the Department. You will not be eligible for any makeup for the entire exam/homework/quiz. De Anza's Policy on Academic Integrity will be strictly followed.

Policy statement:

http://www.deanza.edu/studenthandbook/academic-integrity.html

Campus Policy on Disability

Class specific things may be obtained by contacting me or the department office. For campus wide resources, students may contact Disability Support Services (DSS) at:

http://www.deanza.edu/dss/index.html

Grading Policy

Homework (7×3) = 21%, Quizzes (7×3) = 21%, Project (2×5) = 10%, Participation (3×1) = 3%

Midterms (2×15) = 30%, and Finals = 15%.

A+ (100.0-95.0) A (94.9-90.0) A- (89.9 - 85.0) B+ (84.9-80.0) B (79.9-75.0)

B- (74.9-70.0) C (69.9-60.0) C-(59.9-55.0) D (54.9-50.0) F <50

Other Useful Information

1. This course meets online. All policies as set by the school for class, including attendance, homework, and exams, will be strictly followed. Students are encouraged to make use of the opportunities for online participation made available through Canvas, and during instructions through Zoom.
2. This course is highly interactive. To be successful, you must to read ahead, attend all classes, actively participate in discussions in class and work on the assignments and projects.
3. From the College's webpage: "De Anza offers a broad range of programs and services to help you succeed. Through peer advising, student mentoring, tutoring and more, we provide the support that you need to reach your educational goals." Make use of the opportunities available to you. For details, please see: http://www.deanza.edu/academicsupport/
4. Emails from students are always welcome. I will return your emails within 24 hours.
5. There will be eight quizzes offered during the Quarter. All of them will be at the beginning of class. There will be no makeup offered for quizzes under any circumstances. All quizzes are timed and available only online through Canvas.
6. There will be two midterms offered for the class. Make-ups for midterms are offered only if there is a documented emergency need (or if arranged at least a week in advance).

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ENGR D035. Statics (Spring 2022) - Tentative Calendar

Week	Date	Topic	Read	Due
1	04/06/2022	Course info. Introduction, Vectors	001-074	Q-0
2	04/11/2022	Forces on Particles - 2D, 3D	001-074	
	04/13/2022	Forces in Space, Rigid Bodies, Moments	046-085	HW-1 / Q-1
3	04/18/2022	Equilibrium of Rigid Bodies	085-157	
	04/20/2022	Equilibrium of Rigid Bodies	158-191	HW-2 / Q-2
4	04/25/2022	Distributed Forces - Areas and Lines	192-217	
	04/27/2022	Distributed Forces - Volumes	218-258	HW-3 / Q-3
5	05/02/2022	Midterm Review	258-281	Project - A
	05/04/2022	(Midterm -1, 1 hr), Trusses	001-281	
6	05/09/2022	Trusses	282-314	
	05/11/2022	Trusses and Frames	282-314	HW-4 / Q-4
7	05/16/2022	Forces in Beams	314-351	
	05/18/2022	Forces in Beams	352-383	HW-5 / Q-5
8	05/23/2022	Forces in Cables	383-410	
	05/25/2022	Friction	411-467	HW-6 / Q-6
9	05/30/2022	MEMORIAL DAY	411-467	
	06/01/2022	Friction	411-467	Project - B
10	06/06/2022	Moments of Inertia - Area and Mass	468-554	
	06/08/2022	Moments of Inertia, Midterm Review	510-554	HW-7 / Q-7
11	06/13/2022	(Midterm-2, 1 hr), Moment of Inertia	282-554	
	06/15/2022	Finals Review	001-554	
12	06/22/2022	Final Exam, Wednesday: 6:15-8:15 p.m		

Notes:

1. Reading assignments of the pages listed are from the course text. Read them before the class!
2. Quizzes each week will be based on the material covered in class during the previous week.
3. If you are using an alternate text, follow the topic descriptions shown and follow along.
4. Course schedule is subject to change with fair notice in class or via email.

Follow announcements, download homework and quiz solutions and discussions on Canvas.

Student Learning Outcome(s):

*The student will be able to analyze two- and three-dimensional force systems on rigid bodies in static equilibrium using vector and scalar analysis methods.