

Department of Engineering, De Anza College
ENGR 35. Statics (Summer 2023)

Instructor: Sathish Manickam, Ph.D
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Schedule: MTWTh 06.00-08.45 PM, in person class, S56
Office Hours: Friday, 7.45-8.45 PM, 4 slots w/ 15 min 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

Course Activity	Per Activity	Total Points
Quiz (4)	25	25
Homework (4)	25	25
Projects	10	10
Participation	10	10
Finals	30	30
	Total	100

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 is highly interactive. To be successful, you must read ahead, attend all classes, actively participate in discussions in class and work on the assignments and projects.
2. 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/>
3. Emails from students are always welcome. I will return your emails within 24 hours.
4. There will be four Quizzes offered for the class. Due to the shortened nature of summer classes, there will be no make-up quizzes offered.
5. There will be no midterms exams.
6. The final exam will be a comprehensive test covering the entire course.

Department of Engineering, De Anza College				
ENGR D035. Statics (Summer 2023) - Tentative Calendar				
Week	Date	Topic	Read	Due
1	07/03/2023	Course info. Introduction, Vectors	001-074	Q-0
	07/05/2023	Forces on Particles - 2D, 3D	001-074	
	07/06/2023	Forces on Particles - 2D, 3D	001-074	
2	07/10/2023	Q-1 + Forces in Space, Rigid Bodies, Moments	046-085	HW-1 / Q-1
	07/11/2023	Equilibrium of Rigid Bodies	085-157	
	07/12/2023	Equilibrium of Rigid Bodies	158-191	
	07/13/2023	Equilibrium of Rigid Bodies	192-217	
3	07/17/2023	Q-2 + Distributed Forces - Areas and Lines	218-258	HW-2 / Q-2
	07/18/2023	Distributed Forces - Volumes	258-281	
	07/19/2023	Trusses	001-281	
	07/20/2023	Trusses and Frames	282-314	
4	07/24/2023	Q-3 + Forces in Beams	282-314	HW-3 / Q-3
	07/25/2023	Forces in Beams	314-351	
	07/26/2023	Forces in Cables	352-383	
	07/27/2023	BUFFER - 1	383-410	
5	07/31/2023	Q4 + Friction	411-467	HW-4 / Q-4
	08/01/2023	Friction	411-467	
	08/02/2023	Moments of Inertia - Area and Mass	468-554	
	08/03/2023	Moments of Inertia	510-554	Project
6	08/07/2023	Moment of Inertia	510-554	
	08/08/2023	BUFFER - 2	510-554	
	08/09/2023	Finals Review	001-554	
12	08/10/2023	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 all homework, quiz solutions and discussions on Canvas.

Student Learning Outcome(s):

- Analyze two- and three-dimensional force systems on rigid bodies in static equilibrium using vector and scalar analysis methods.

Office Hours:

F 07:30 PM 08:30 PM Zoom By Appointment