

ENGR 220 – Statics

Spring 2024

Instructor: Mark Holdhusen, Ph.D. (he/him/his)

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Zoom: <https://wisconsin-edu.zoom.us/j/6053340979>

Office Hours

- Wausau (381-D): Tu 12:00-1:00
We 1:00-2:00
- Stevens Point (SCI B109): Th 11:00-12:00
- Marshfield (433): Fr 9:00-10:00

Description:

Principles of mechanics, force systems, equilibrium, structures, distributed forces, moments of inertia of areas, and friction. The course will serve the requirements of the several engineering curricula.

Text:

Hibbeler, R.C., *Engineering Mechanics: Statics (ANY EDITION)* by Prentice Hall

- If you will take Dynamics at UWSP consider purchasing the combined text with Dynamics.

Website:

<https://canvas.uwsp.edu>

- This class is a hybrid format so much of the course is online at the above website.

Meeting Times:

- Tuesday – Virtual 10:00AM - 10:50AM
 - <https://wisconsin-edu.zoom.us/j/97236896936?pwd=ZGp6bTRLeGxsbUwydzZ1VIBXZ0hKZz09>
- Wednesday 12:00PM - 12:50PM Wausau Room 284
 - <https://wisconsin-edu.zoom.us/j/93177893325?pwd=S1NRVkvNRTZ0WDFNK3dlK21MTVc2Zz09>
- Thursday 12:00PM - 12:50PM Stevens Point Science Building (SCI) A112
 - <https://wisconsin-edu.zoom.us/j/96939106503?pwd=V05pd0c3ZXhvc1RHbUMwalRiM015QT09>
- Friday 11:00AM - 11:50AM Marshfield Room 207
 - <https://wisconsin-edu.zoom.us/j/95391649159?pwd=azVnUWRLNmhvNHhUUI4RFpyYWd6UT09>

Grading:

5% - Introductory problems: After each weekly virtual lecture, problems will be completed before the first weekly discussion section. Late work will not be accepted.

10% - Discussion problems: During the weekly face-to-face discussions, problems will be solved with help from other students and the instructor. Credit will be given for simply doing these problems. Late submissions will get half credit up to a week past the due date. Submissions more than one week late will be given no credit.

10% - Homework problems: Assignments are due weekly. Group work is encouraged on homework; however, each student must submit their own assignment. The answers will be given with the assignment. These answers should be used as a guide as to whether you've done the problem correctly. The homework will be graded for completeness only. Late submissions will get half credit up to a week past the due date. Submissions more than one week late will be given no credit.

10% - Online quizzes: Online quizzes via Canvas corresponding to each homework assignment. Each quiz will consist of a handful of questions from a larger bank of questions. You will be allowed 2 attempts for each quiz and the best score will be recorded. Due date extensions will not be given.

40% - Exams: 3 equally weighted 2-hour exams as shown on the schedule. These exams will be proctored outside of class. Each exam will consist of a few open-ended problems like those done for homework. One 8.5" x 11" sheet of notes, your textbook, and calculator is allowed. You must use your own note sheet. Partial credit will be given.

15% - Final Exam: The final exam will consist of 10 multiple choice questions taken from the Fundamentals of Engineering certification exam. Partial credit will be given for getting the correct answer and partial credit will be given for the work done to achieve the answer. One sheet of notes, your textbook, and a calculator will be allowed on the final exam.

10% - Bridge Project: Design, build, and mathematically model a wooden bridge.

Grading Scale

- 93 – 100% = A
- 90 – 92% = A-
- 87 – 89% = B+
- 83 – 86% = B
- 80 – 82% = B-
- 77 – 79% = C+
- 73 – 76% = C
- 70 – 72% = C-
- 67 – 69% = D+
- 63 – 66% = D
- 60 – 62% = D-
- < 59% = F

Course Schedule:

Date	Topic	Assignments	Date	Topic	Assignments
22-Jan	2D Vectors	Intro 1	25-Mar	Frames/Machines	Homework 7
23-Jan			26-Mar		Quiz 7/Intro 8
24-Jan			27-Mar		
25-Jan			28-Mar		
26-Jan			29-Mar		Discussion 8
29-Jan	3D Vectors	Homework 1 Quiz 1/Intro 2	1-Apr	Review 2	Homework 8
30-Jan			2-Apr		Quiz 7
31-Jan			3-Apr		
1-Feb			4-Apr		
2-Feb			5-Apr		
5-Feb	Moments	Homework 2 Quiz 2/Intro 3	8-Apr	Friction	Exam 2
6-Feb			9-Apr		Intro 9
7-Feb			10-Apr		
8-Feb			11-Apr		
9-Feb			12-Apr		Discussion 9
12-Feb	Equivalent Systems	Homework 3 Quiz 3/Intro 4	15-Apr	Centroids	
13-Feb			16-Apr		Homework 9
14-Feb			17-Apr		Quiz 9/Intro 10
15-Feb			18-Apr		
16-Feb			19-Apr		Discussion 10
19-Feb	Review 1	Homework 4 Quiz 4	22-Apr	Moments of Inertia	
20-Feb			23-Apr		Homework 10
21-Feb			24-Apr		Quiz 10/Intro 11
22-Feb			25-Apr		
23-Feb			26-Apr		Discussion 11
26-Feb	2D Equilibrium	Exam 1 Intro 5	29-Apr	Review 3	
27-Feb			30-Apr		Homework 11
28-Feb			1-May		Quiz 12
29-Feb			2-May		
1-Mar			3-May		
4-Mar	3D Equilibrium	Homework 5 Quiz 5/Intro 6	6-May	Project/Final Review	Exam 3
5-Mar			7-May		
6-Mar			8-May		
7-Mar			9-May		
8-Mar			10-May		
11-Mar	Trusses	Homework 6 Quiz 5/Intro 7	13-May	Final Exam	
12-Mar			14-May		
13-Mar			15-May		
14-Mar			16-May		
15-Mar			17-May		
18-Mar	Spring Break				
19-Mar					
20-Mar					
21-Mar					
22-Mar					