

# ENGR 220 – Statics

Spring 2022

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## Office Hours

- Wausau (381-D): MTW 11:00-12:00
- Marshfield (622): R 12:00-1:00
- Stevens Point (B118): F 11:00-12:00

## 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.

## Topics:

- Force vectors and moments
- Equilibrium of particles and rigid bodies
- Trusses, frames, and machines
- Friction
- Center of Gravity
- Moment of Inertia

## Website:

<https://canvas.uwsp.edu>

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

## Meeting Times:

- Wednesday - Wausau - Room 284 - 1:00PM - 1:50PM
- Thursday - Marshfield - Room 201 - 1:00PM - 1:50PM
- Friday - Stevens Point - Science Building A112 - 10:00AM - 10:50AM
- All meetings also in Zoom, check Canvas for link

## Grading:

10% - In-class problems: During the face-to-face portion of the class problems will be completed with help from other students and the instructor. Credit will be given for simply doing these problems

10% - Homework: 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.

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.

45% - Exams: 3 equally weighted 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 bridge made from wood.

## Grading Scale

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

**Course Schedule:**

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