

# ENGR 105 – Engineering Fundamentals

Fall 2023

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): We 9:00-10:00
- Marshfield (433): Th 12:00-1:00
- Stevens Point (B109): Fr 10:00-11:00

## Description

This course equips students with the tools and background to be a successful engineering student and practicing engineer. Topics covered in this course include project management, teamwork, technical writing, data and spreadsheets, presentations, engineering design, and understanding the engineering profession.

## Website

This course is offered hybrid so much of the course information is on the internet at <https://canvas.uwsp.edu>

## Meeting Times

- Tuesday – Virtual Lecture – 10:00AM – 10:50AM
  - <https://wisconsin-edu.zoom.us/j/97009696417?pwd=bk5zdnhraUftUnJqS1A5aG1pT3Y2UT09>
- Wednesday - Wausau - Room 284 - 2:00PM - 2:50PM
  - <https://wisconsin-edu.zoom.us/j/95701188300?pwd=ZFphOVkwR3R6S3U0WkIzQkhKWEh1dz09>
- Thursday - Marshfield - Room 207 - 10:00AM - 10:50AM
  - <https://wisconsin-edu.zoom.us/j/96521137168?pwd=NjRSdlo4RXc2S3J0MWFRVnZDUC9BQT09>
- Friday - Stevens Point - Science Building A213 - 9:00AM – 9:50AM
  - <https://wisconsin-edu.zoom.us/j/95039792449?pwd=UW1VTEFiNjJ2N3ZsS3ZBYVpZV2Zzd09>

## Microcontroller Kit

- ELEGOO Arduino UNO Project Super Starter Kit
  - <https://www.amazon.com/ELEGOO-Project-Tutorial-Controller-Projects/dp/B01D8KOZF4>

## Assessments

- |                           |     |                   |     |
|---------------------------|-----|-------------------|-----|
| • Engineering Assignments | 30% | • Design Projects | 40% |
| • Excel Assignments       | 20% | • Excel Project   | 10% |

## Grading Scale

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

## Academic Misconduct

To maintain academic integrity, a student must only claim work which is the authentic work solely of their own, providing correct citations and credit to others as needed. Cheating, fabrication, plagiarism, unauthorized collaboration, and/or helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. Failure to understand what constitutes academic misconduct does not exempt responsibility from engaging in it. Students suspected of academic misconduct will be asked to meet with the instructor to discuss the concerns. If academic misconduct is evident, procedures for determining disciplinary sanctions will be followed as outlined in the University System Administrative Code, Chapter 14.

**Course Calendar**

<b>Date</b>	<b>Topic</b>	<b>Date</b>	<b>Topic</b>
4-Sep	Labor Day	30-Oct	
5-Sep		31-Oct	
6-Sep	Introduction	1-Nov	Engineering: Bridge Project
7-Sep	Arduino: Coding	2-Nov	Arduino: 7-Segment Display
8-Sep		3-Nov	
11-Sep		6-Nov	
12-Sep	Engineering: Design	7-Nov	Engineering: Numbers
13-Sep	Excel: Basics	8-Nov	Excel: Statistics
14-Sep	Arduino: Setup	9-Nov	Arduino: DC Motor
15-Sep		10-Nov	
18-Sep		13-Nov	
19-Sep	Engineering: Mini Project	14-Nov	Engineering: Ethics
20-Sep	Excel: Functions	15-Nov	Excel: Units
21-Sep	Arduino: LED/Button	16-Nov	Arduino: Stepper Motor/Remote
22-Sep		17-Nov	
25-Sep		20-Nov	
26-Sep	Engineering: Project Management	21-Nov	Work Week
27-Sep	Excel: IF function	22-Nov	
28-Sep	Arduino: RGB/Buzzers	23-Nov	Thanksgiving
29-Sep		24-Nov	
2-Oct		27-Nov	
3-Oct	Engineering: Graphics	28-Nov	Engineering: Curriculum
4-Oct	Excel: Graphing	29-Nov	Excel: Sort/Filter/Pivot Tables
5-Oct	Arduino: Tilt Switch/Servo	30-Nov	
6-Oct		1-Dec	
9-Oct		4-Dec	
10-Oct	Engineering: Writing	5-Dec	Engineering: Presentations
11-Oct	Excel: Word	6-Dec	Excel: PowerPoint
12-Oct	Arduino: Distance/Temperature/Humidity/Joystick	7-Dec	
13-Oct		8-Dec	
16-Oct		11-Dec	
17-Oct	Engineering: Majors	12-Dec	
18-Oct	Excel: Curve Fitting	13-Dec	Work Week
19-Oct	Arduino: Display/Thermometer	14-Dec	
20-Oct		15-Dec	
23-Oct		18-Dec	
24-Oct		19-Dec	Arduino Project
25-Oct	Arduino: Shift Register/Photocell	20-Dec	
26-Oct			
27-Oct			