



Marshall University Syllabus

College of Engineering and Computer Sciences (CECS)

Course

ENGR 104 / Engineering Profession (SEC 106)

Course Description

Introduction to the engineering profession and engineering disciplines; introduction to the engineering design process and team projects.

Credits

1

Prerequisites

ACT 24 or SAT 560; concurrent PR: MTH 132 or CR: MTH 229 or MTH 229H; engineering major

Term/Year

Fall 2022

Class Meeting Days/Times

Lecture: F / 11:00 am – 11:50 am

Location

Lecture: WAEC 1105

Academic Calendar

For beginning, ending, and add/drop dates, see the [Marshall University Academic Calendar](https://www.marshall.edu/academic-calendar/) (URL: <https://www.marshall.edu/academic-calendar/>).

Instructor

Sukjoon Na, Ph.D.

Contact Information

- Office: WAEC 2205
- Office Hours: can be held in person or virtually. Masks are required for the face-to-face meeting. A virtual meeting can be held through either Teams or Blackboard. The instructor will send you a link via email.

- Monday: 2:00 pm to 4:00 pm
- Tuesday: 2:00 pm to 5:00 pm
- Wednesday: 2:00 pm to 3:00 pm
- Friday: 2:00 pm to 5:00 pm
- Office Phone: (304) 696-567
- Marshall Email: nas@marshall.edu

COVID-19 Related Information

Marshall's official COVID-19 protocols are online at <https://www.marshall.edu/coronavirus> (URL: <https://www.marshall.edu/coronavirus/>). Policies and protocols may change over time as we respond to changing conditions. The website will always contain the most recent information – check it frequently for the most current information.

Key policies and practices at the start of the Fall 2022 semester include the following:

- **Wear a mask inside university buildings, when required.** To see the campus current masking status, visit Marshall's COVID-19 Dashboard (www.marshall.edu/coronavirus). Masks are not required in personal residence hall rooms or workspaces.
- **Students will disinfect their personal workspaces and virtual learning hubs** with disinfectant wipes provided nearby.
- **All members of the Marshall University community are expected to observe all COVID-19 protocols at all times. Students who are unable to follow University requirements due to a disability** should seek reasonable accommodations from the Office of Disability Services (ODS; disabilityservices@marshall.edu) during the first week of class.

Required and/or Recommended Texts and Materials

Required Texts and Materials

None

Recommended/Optional Texts and Materials

None

Course Student Learning Outcomes

The table below shows the following relationships: How each student learning outcome will be practiced and assessed in the course.

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Understand the various engineering disciplines and career choices.	In-class exercises and group discussion	Assignments
Identify the skills and attributes required to be a successful engineering student and a successful engineering professional.	In-class exercises and group discussion	Project Presentation, Assignments
Demonstrate an ability to generate a methodical solution to an engineering analysis problem, based on reasonable assumptions, independent research, and critical thinking.	In-class exercises, design projects	Project Presentation, Assignments
Successfully work in a team environment.	In-class exercises, design projects	Design project Reports
Describe and apply the engineering design process, including optimization of design parameters, to achieve a maximally efficient result.	Design assignments, design projects	Design project reports
Demonstrate an ability to communicate effectively.	Design project reports	Design project reports

Course Requirements/Due Dates

See the tentative course schedule below.

Grading Policy

Grading Basis (Total = 100%)

- Attendance: 20%
- Assignment: 20%
- Project reports: (15% * 3) 45%
- Presentations: (15% * 1) 15%

Grading Scale

- A: Total \geq 90%
- B: $80\% \leq$ Total $<$ 90%
- C: $70\% \leq$ Total $<$ 80%
- D: $60\% \leq$ Total $<$ 70%
- F: Total $<$ 60%

Attendance/Participation Policy

Students are expected to attend all class and laboratory sessions. Attendance will be taken at the beginning of each lecture and laboratory; late arrivals (10 minutes or more) will count as half an absence. The information covered in each class is pertinent to the understanding of the required material. Students are required to participate in class discussions.

- Talk only to participate in class discussions.
- All cell phones and mobile communication devices should be turned off during class.
- Do not work on other assignments during class.
- Any student missing class is responsible for any material covered and any assignments made. In the event of an excused absence (i.e. illness, death in the family, school activity, work requirements, etc.) notify the instructor as soon as possible.
- If you are sick or not feeling well, please do NOT come to class. Seek your medical attention from your doctor or at Student Health Services.
- For excused absences, please contact Student Affairs at Marshall University's Wellness Center (<https://www.marshall.edu/student-affairs/>) and complete the University Excused Absence Form.

The safety goal of the Weisberg Engineering Division Laboratory is to prevent ALL accidents from occurring in the laboratory. Everyone who enters the laboratory must strive to maintain a zero accident environment and follow all posted safety regulations.

Impact of lab absences on overall performance

- Attending class and participating in discussions/activities is **mandatory**. This includes all work done in class, such as group discussions and assignments.
- If you are absent when an assignment is due, that assignment is considered late. Refer to the policy below explaining late assignments. The late assignment policy will be strictly enforced.
- If you are absent when an assignment is done in class your grade for that assignment will be a "zero".
- Your attendance grade will be prorated based on the number of absense

If the number of **unexcused absences exceeds 1/3 of either class meetings or lab meetings**, your final grade will result in an **"F" grade**.

University Policies

By enrolling in this course, you agree to the University Policies. Please read the full text of each policy (listed below) by going to [MU Academic Affairs: University Policies](https://www.marshall.edu/academic-affairs/policies/). (URL: <https://www.marshall.edu/academic-affairs/policies/>)

- Academic Dishonesty Policy
- Academic Dismissal Policy
- Academic Forgiveness Policy
- Academic Probation and Suspension Policy

- Affirmative Action Policy
- Dead Week Policy
- D/F Repeat Rule
- Excused Absence Policy for Undergraduates
- Inclement Weather Policy
- Sexual Harassment Policy
- Students with Disabilities (Policies and Procedures)
- University Computing Services Acceptable Use Policy

Honor (Academic Dishonesty) Policy

Students are expected to adhere to the Marshall University academic dishonesty policy, found in the undergraduate catalog. Academic dishonesty will not be tolerated, and infractions of the university academic dishonesty requirements will lead to sanctions and reporting to the Office of Academic Affairs. Students are particularly encouraged to be careful to avoid cheating, plagiarism, and complicity as related to homework assignments. Examples of acceptable and unacceptable behavior are as follows:

Acceptable Behavior

- ☺ Discuss homework problems with others.
- ☺ Check answers with other students.
- ☺ Help other students learn & find mistakes.

Unacceptable Behavior

- ☹ Show someone every step of your calculations.
- ☹ Hand your assignment to someone else.
- ☹ Group working calculations simultaneously.*

*Since everyone works at a different speed, "group work" can degenerate into a slower student copying a faster one, without really understanding what is going on. Exams are taken individually, so it is important for students to learn how to solve problems on their own. ***Incoming homework assignments will be screened for inappropriate collaboration.***

Homework & Laboratory Assignment Policy

Homework and laboratory assignments will periodically be assigned throughout the semester and will be **due at the beginning of lecture on the date** indicated on the original assignment. Assignments may be assigned during lecture or electronically (students should actively monitor email and electronic course materials). An assignment that is illegible or is presented in an unprofessional manner will not be accepted. Late submittals before the graded assignments are returned will be accepted at a **20% penalty per 24-hour time period** (including weekends). Late submittals will not be accepted after the graded assignments has been returned.

Submission Formatting Guidelines

- A cover page including your name, course/section no., homework no., and due date must appear on all submissions.
- All written assignments are to be completed using Microsoft Word.
- Successive pages of multiple page sets must be initialed and should have the pagination (i.e., 1/3, 2/3, 3/3, etc.) in the upper right-hand corner of the

- page.
- All assignments are to be done neatly and legibly using a pencil and engineering paper:
 - Each problem should be started on a new sheet of engineering paper
 - Only one side of the paper is to be used (the lighter side)
 - Straight edges must be used for all figures
 - Multiple-page sets are to be stapled together in the upper left hand corner

Students with Disabilities

For University policies and the procedures for obtaining services, please go to [MU Academic Affairs: University Policies](http://www.marshall.edu/academic-affairs/policies/) and read the section, **Students with Disabilities**. (URL: <http://www.marshall.edu/academic-affairs/policies/>)

Marshall University E-Mail Accounts

You must have and use your MU email account. Your personal email accounts will not be used for official communication with Marshall University programs and personnel. You may redirect your MU email to your own personal email account, but you must sign in to your MU account to do that. Marshall University uses Office 365 email. For more information, visit [Marshall IT: Office 365](https://www.marshall.edu/it/office365/) (URL <https://www.marshall.edu/it/office365/>).

Tentative Course Schedule

The following schedule may be subject to change, depending on the circumstances.

Lecture	Date	Lecture Topic	Assignment Due
Lect. 01	Friday Aug 26	<u>Course Overview (Assignment 1)</u>	
Lect. 02	Friday Sep 02	<u>Introduction to Engineering</u>	<u>Assignment 1</u>
Lect. 03	Friday Sep 09	<u>Brainstorming and Project Planning (Assignment 2)</u>	
Lect. 04	Friday Sep 16	<u>House of Cards Competition (Report 1)</u>	<u>Assignment 2</u>
Lect. 05	Friday Sep 23	<u>Keys to Success</u>	<u>Report 1</u>
Lect. 06	Friday Sep 30	<u>Optimization (Assignment 3)</u>	
Lect. 07	Friday Oct 07	<u>Internet of Things Project – Introduction</u>	<u>Assignment 3</u>
Lect. 08	Friday Oct 14	<u>Internet of Things Project – Design</u>	

Lect. 09	Friday Oct 21	<u>Internet of Things Project – Team Presentation 1 (Report 2)</u>	
Lect. 10	Friday Oct 28	<u>Spaghetti Bridge Project – Introduction</u>	<u>Report 2</u>
Lect. 11	Friday Nov 04	<u>Spaghetti Bridge Project – Design 1</u>	
Lect. 12	Friday Nov 11	<u>Spaghetti Bridge Project – Design 2</u>	
Lect. 13	Friday Nov 18	<u>Spaghetti Bridge Project – Competition (Report 3)</u>	
Lect. 14	Friday Nov 25	<u>Thanksgiving</u>	
Lect. 15	Friday Dec 02	<u>Ethics & The Rights and Responsibilities of Engineers</u>	<u>Report 3</u>
Lect. 16	Friday Dec 09	<u>Final Exam Week</u>	

Technology and Technical Skill Requirements

- Students must be proficient in the use of computers, the Internet, browsers, Microsoft Office Word, and other common applications.
- For computer and browser requirements, see “Get Connected” and “Internet Browser” at [Student Resources: First Steps](#). See also [IT: Recommended Hardware](#) (URLs: <http://www.marshall.edu/muonline/student-resources/> and <http://www.marshall.edu/it/recommendations/>).
- To check your browsers, use the [Blackboard Browser Checker](#) and ensure that you set permissions properly and have all the necessary plug-ins. (URL: https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support/Browser_Checker)
- Students must be able to use Marshall email, as well as the following tools in Blackboard: course messages, assignments, discussion board forums, tests, blogs, journals, wikis, and groups. Links to Blackboard Help and tutorials are available on the Start Here page and on the Tech Support tab in Blackboard.
- Virtual (VC) courses may require a webcam and microphone to use Blackboard Collaborate Ultra for synchronous meetings. For the best experience, Blackboard recommends Google Chrome browser or Mozilla Firefox browser. Links to Blackboard Collaborate Help and Tutorials are on the Start Here page and on the Tech Support tab in Blackboard.
- [Adobe Acrobat Reader](#) may be needed to read some files. This plug-in is available free. (URL: <https://get.adobe.com/reader/>) See the Tech Support tab in Blackboard for additional information and links.

- Students may be required to submit assignments as Microsoft Word documents (.docx), using the most recent Microsoft Office suite. Office 365 is available at no extra charge to students enrolled at MU. For information visit [Marshall IT: Office 365](http://www.marshall.edu/it/office365/) (URL: <http://www.marshall.edu/it/office365/>).
- See the Tech Support tab in Blackboard for additional information on browsers, technology, and apps.

Technology Assistance

If you have technical problems, please contact one or more of the following:

- [Blackboard Support Center](http://marshall.edusupportcenter.com) (URL: <http://marshall.edusupportcenter.com>)
- Marshall [Information Technology \(IT\) Service Desk](http://www.marshall.edu/it/departments/it-service-desk/) (Help Desk) (URL: <http://www.marshall.edu/it/departments/it-service-desk/>)
 - Huntington: (304) 696-3200
 - South Charleston: (304) 746-1969
 - [Email the IT Service Desk](mailto:itservicedesk@marshall.edu) (itservicedesk@marshall.edu)