

COURSE SYLLABUS

CSEE 380

Capstone Project – Seminar

Instructional Materials

Required Instructional Materials:

There is no designated textbook for this course. Relevant resources and references shall be posted to the course's eCampus page.

Optional Instructional Materials:

Relevant resources and references shall be posted to the course's eCampus page.

Expected Learning Outcomes

1. Recognize the impact of societal, cultural, global, economic, safety, and environmental factors on design solutions. (ABET Outcome 2)
 2. Analyze the legal and ethical responsibilities of technical professions in complex situations. (ABET Outcome 3)
 3. Identify potential career trajectories, including graduate school, internships, and work in industry. (ABET Criterion 1)
 4. Select from among options for capstone design experience. (ABET Outcome 5)
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Assessment

Short Descriptions of and Grading Criteria for Major Assignments/Assessments:

Ethical Case Study: Each student shall write a paper reflecting on an ethical issue, describing its nuances.

Resume: Each student will craft a resume directed towards capstone design.

Skill Acquisition: Each student must take training and be certified with a skill associated with the Innovation Hub (e.g., 3-D printing).

Seminar summaries: For select seminars, each student will be required to write a summary.

Final Report: Each student shall write a paper focusing on one of the capstone design options. The report shall include a description of the background, including the problems and challenges addressed by the project, and work that has been done to date (drawing from the related

literature). Students should reflect on their role in the project, including what contributions they expect to make and how they should prepare for the project.

Weight/Distribution of Course Points:

Ethical Case Study	30%
Resume	10%
Skill Acquisition	10%
Seminar Summaries	10%
Final Report	40%

Mid-Semester Grade:

The mid-semester grade will be computed based on the Ethical Case Study and the Resume, which together constitute the first 40% of the total grade.

Expected Timeline of Major Assignments/Assessments and Topics/Units:

Each unit below represent one week of the semester (with one class per week)

1. Professional Societies and their codes of ethics.
2. Ethics Case Studies 1: Engineering design failure case study (e.g., 737 Max).
3. Ethics Case Studies 2: Privacy issues and cybersecurity (e.g., Equifax breach).
4. Career Services: Internships, resume writing, interviewing.
5. Entrepreneurship, Innovation; and Intellectual Property.
6. Introduction to the WVU Innovation Hub.
7. Library resources to support research. Finding and citing references.
8. Responsible research, plagiarism: Avoidance and consequences.
9. Senior Design Track #1 Presentation
10. Senior Design Track #2 Presentation
11. Senior Design Track #3 Presentation
12. Senior Design Track #4 Presentation
13. Creating inclusive work cultures; Facilitation; Mediation and conflict resolution.
14. Graduate and professional school: Opportunities, expectations, and application process.
15. Senior design expo.

Final Grading Scale:

A: 90 or above

B: 80 or above, but less than 90

C: 70 or above, but less than 80

D: 60 or above, but less than 70

F: less than 60