

NEWARK COLLEGE OF ENGINEERING

SYLLABUS AND COURSE INFORMATION

Course Name: ECET Senior Project II

Course Number: ECET 402

Course Structure: 0-2-1 (lecture hr/wk – lab hr/wk – course credits)

Course Description: Apply technical knowledge to implement, build, and test the project approved in ECET 401. Complete library research, design specifications, computer analysis, simulation, and time and cost estimates. Purchase and build a working prototype of the design. Complete formal testing procedures to verify that the prototype meets design specifications. Submit formal written documentation and present the project during an oral presentation to a design review board and other students in the class.

Prerequisites: ECET 401 (Must be completed the previous full semester)

Corequisites: None

**Required, Elective,
or Selected Elective:** Required

Required Materials: Electronic course materials provided by the instructor.

Course Outcomes: By the end of the course students are able to:

1. Identify problems with the progress of a project and make improvements to meet specific goals.
2. Develop test procedures for each deliverables and demonstrate that the deliverable meets the test procedures and are delivered on a timely basis.
3. Apply critical thinking, research, and communication skills to an engineering design project.
4. Build, test, and troubleshoot the software and hardware of a prototype; redesign where necessary.
5. Gain an appreciation for ethics, professionalism, and life-long learning.
6. Present oral and written technical information in a professional and concise manner.
7. Effectively interact with other team members to complete a project with interim goals, and understand individual responsibilities within a team setting.

Class Topics:	Project Management	Design Documentation
	Design Specifications	Project Reports
	Engineering Ethics	Cost Reporting
	Design Implementation	Design Verification

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Student Outcomes: The Course Learning Outcomes support achievement of the following Student Outcomes from the ETAC of ABET Criterion 3 requirements.

Student Outcome d: An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives.

Related Course Learning Outcomes: 4

Student Outcome e: An ability to function effectively as a member or leader on a technical team.

Related Course Learning Outcomes: 7

Student Outcome g: An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

Related Course Learning Outcomes: 6

Student Outcome k: A commitment to quality, timeliness, and continuous improvement.

Related Course Learning Outcomes: 1

Student Outcome n: The ability to analyze, design, and implement one or more of the following: control systems, instrumentation systems, communications systems, computer systems, or power systems.

Related Course Learning Outcomes: 1 & 7

Student Outcome o: The ability to apply project management techniques to electrical/electronic(s) systems.

Related Course Learning Outcomes: 1 & 7

Academic Integrity: NJIT has a zero-tolerance policy regarding cheating of any kind and student behavior that is disruptive to a learning environment. Any incidents will be immediately reported to the Dean of Students. Please visit the Dean of Students website at <http://www.njit.edu/doss> for a list of student policies relating to academic integrity and student conduct.

Modification to Course: The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course Outline.

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