

## NEWARK COLLEGE OF ENGINEERING

### SYLLABUS AND COURSE INFORMATION

- Course Name:** ECET Senior Project I
- Course Number:** ECET 401
- Course Structure:** 2-0-2 (lecture hr/wk – lab hr/wk – course credits)
- Course Description:** The first course in a two-course sequence comprised of Senior Project 1 (ECET 401) and Senior Project 2 (ECET 402). Project management, concurrent engineering, proposal development, library research, and computer usage are stressed. Students develop a formal proposal, technical specifications, Gantt chart, and design specifications for the senior project to be implemented in ECET 402.
- Prerequisites:** ECET 344, ECET 365, ECET 411, and ENG 352
- 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. Develop, design, and document an electrical/computer engineering technology-based project by applying knowledge gained at NJIT and other institutions.
  2. Write Functional Specifications for the project
  3. Monitor the progress of this project and make improvements utilizing software applications.
  4. Analyze the preliminary design for the project to divide it into deliverables.
  5. Purchase, test, and become familiar with the main components of your project and the technical specifications and standards.
  6. Gain an appreciation for ethics, professionalism, diversity, and life-long learning.
  7. Present oral and written technical information in a professional and concise manner.
  8. 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       |
- Student Outcomes:** The Course Learning Outcomes support achievement of the following Student Outcomes from the ETAC of ABET Criterion 3 requirements.

**Student Outcome c:** An ability to conduct standard tests and

**NEWARK COLLEGE OF ENGINEERING**

measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.

**Related Course Learning Outcomes: 1 & 3**

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

**Related Course Learning Outcomes: 8**

**Student Outcome f:** An ability to identify, analyze, and solve broadly-defined engineering technology problems.

**Related Course Learning Outcomes: 1**

**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: 7**

**Student Outcome h:** An understanding of the need for and an ability to engage in self-directed continuing professional development.

**Related Course Learning Outcomes: 6**

**Student Outcome i:** An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity;

**Related Course Learning Outcomes: 6**

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

**Related Course Learning Outcomes: 3**

**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, 4, & 5**

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

**Related Course Learning Outcomes: 3**

**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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