

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: ESET-365 Department: ESET.AS
 Course Title: Project R & D Semester: 2008 Year: Fall

Objectives/Competencies

Course Objective	Competencies
1. Understand key aspects of project development.	a. Understand various mechanisms that contribute to a design: marketability, economics, technical challenges & competitors. b. Be able to research needed information about various aspects of the product design. c. Be able to develop design specifications. d. Be able to create a realistic schedule. e. Understand Gantt and PERT/CPM type charts. f. Understand the role of hardware and software in modern design. g. Be able to select proper components for the project. h. Understand basic construction techniques. i. Understand the prototype development process. j. Know to verify project performance by comparing with design specs. k. Understand Project Performance Monitoring l. Understand the need for team work m. Understand the need for regular progress reports and communication.

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<p>2. Understand various ways of testing a design.</p>	<ul style="list-style-type: none"> a. Understand the need for thermal tests. b. Understand EMI considerations. c. Understand transient analysis. d. Understand Fourier Analysis e. Understand Noise Analysis. f. Understand Sensitivity Analysis. g. Understand transfer function analysis h. Understand Worst Case and Monte Carlo analysis. i. Understand the benefits and limitations of circuit simulators.
<p>3. Begin the process of selecting the capstone senior project.</p>	<ul style="list-style-type: none"> a. Student will use the skills discussed at the beginning of the course to aid in the selection of their own project. b. Student will conduct research to find an appropriate project. c. Student will perform a cost analysis to make sure the proposed project fits within the students budget. d. Student will develop a components list and order the required parts. e. Be able to submit weekly progress reports detailing all aspects of their project.