

Fall 2015

ENEE 3091

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University of New Orleans

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ENEE 3091: SENIOR DESIGN I

Fall 2015

Draft Syllabus Revision 1: August 19, 2015

ENEE 3091 COURSE DESCRIPTION: SENIOR DESIGN I

1 cr.

ENEE 3091 is a one-credit course that serves as the prerequisite to the three-credit course ENEE 3092. The purpose of ENEE 3091 includes familiarization of students with project selection methodology, team creation, writing of proposals, and project management including budgeting and milestones. ENEE 3092 is a continuation of ENEE 3091 in which students execute their design and attempt to complete a “working project” by the end of the semester. In addition to *design and project management*, we emphasize and include basics of *entrepreneurship* and *undergraduate research* in ENEE 3091 course which have been pursued from fall semester 2009.

PREREQUISITES:

TEXTBOOKS AND OTHER MATERIAL:

There is no text book assigned to the course, however, the instructor may assign reading material for study. Reading of the assigned material is mandatory and students should be prepared for testing as needed.

CLASS SCHEDULE:

We will meet 5:00-6:00 PM on selected Wednesdays in Room EN 312 to discuss and to present team projects and to assess students’ progress. If needed, we will meet in EN 707 Laboratory at pre selected times. It is necessary that each team bring their own laptop for power point presentations to these meetings.

INSTRUCTOR: Parviz Rastgoufard, Ph.D.

Professor

Energy Endowed Chair for Power Systems Engineering

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Phone: 280-5524

Office: EN834/CERM 513 (ONLY BY APPOINTMENT)

Office Hours: **Wednesday 3:00-5:00 PM; T & TR 1:30-3:30 PM**

Appointment (by email communication) as needed.

STUDENT LEARNING OBJECTIVES:

After successfully completing the course, students shall be able to:

- Select a topic for their design that is of interest to them ***and*** satisfies an ***engineering/societal need***. The selected topic needs to be approved by the instructor or a faculty of electrical engineering department. Select three topics for review and final selection.
- Determine the potential of their selected topic for producing a product with ***Economic Viability and Market Potential***
- Determine the ***Originality*** of their project and identify original features of the project for writing of ***“4-Page Paper” in ENEE 3092***
- Apply ***current technology*** in the design of their project
- Identify ***“metrics”*** for measuring their progress and eventually their success in completing their project
- Identify different ***“components”*** of the “system” constituting their project
- Identify ***“tasks”*** for completing the function of each component of the project
- Determining ***“budget” and “milestone”*** for each task and each component of the project
- Writing of a ***“proposal”*** for approval by the instructor
- Creating a ***“road map”*** in form of a ***“technical report”*** for completion of the project in ENEE 3092
- ***Presenting the project*** to practicing engineers at the end of the semester and to the instructor during the semester as determined by the instructor

COURSE TOPICS:

TENTATIVE SCHEDULE:

Week 01 [AUG 17]: Review of Course Objectives, Team Assignments

Week 02 [AUG 24]: Identification of Project

Week 03 [AUG 31]: Finalizing Projects with instructor’s or an EE faculty’s approval.

Week 04 [SEP 07]: Labor Day Holiday for Monday Class. Historical Review of technology and similar products, skeleton of the Project.

Week 05 [SEP 14]: Project Economic Viability and Originality

Week 06 [SEP 21]: Progress Report I due, in class PPP, entrepreneurship,

Week 07 [SEP 28]: Website for each Team (each Project), Progress Report II

Week 08 [OCT 05]: Midterm presentations and Grades,

Week 09 [OCT 12]: Speaker 2, intellectual property, Draft 1 of Proposal and Roadmap due. ***Mid semester Break: Oct 15-16***

Week 10 [OCT 19]: Lab meeting, testing of initial designs as needed

Week 11 [OCT 26]: Progress Report III due

Week 12 [NOV 02]: Discussion and finalizing Proposals

Week 13 [NOV 09]: Lab Meeting/Entrepreneurship

Week 14 [NOV 16]: Prep for Senior Design Symposium Day on December 04, 2015

Week 15 [NOV 23]: Final Proposal with PPP due

Week 16 [NOV 30]: Final in Class PPP Presentation and feedback for Symposium

Week 16 [NOV 30]: Senior Design Symposium Day, Judges on ***Dec. 04, 2015***

TIME BUDGET:

You need to budget your time to complete all tasks to include but not limited to: determining a suitable project, reviewing the background material relating to the selected topic, identifying the components and the function of each component of the project, identifying the talent needed for creating the team to complete the project, determining the budget and milestones for the project, writing of a proposal for implementation in ENEE 3092, and presenting your project in the mid-term and towards the end of the semester. Note that each team needs to create a web-site to display their project in ENEE 3092 and you may want to devote some time to this task during ENEE 3091 so that you have more time for completion of your project next semester.

PROJECT BUDGET:

The EE Department may provide up to \$200 per team for purchasing of parts. Students are mainly responsible for the cost of their project. In evaluating the total cost of your project, include labor cost by assigning \$60/hour for yourself and \$180/hour for your advisor's time. Also, we shall determine a dollar value for the lab space and equipment in class- all teams shall use this consistent value in determining the total cost of their project.

FORMATS:

Formats for your Progress Reports and your proposal shall be provided at a later time. Format for PPP for the mid-term and the Display of your project in Senior Symposium Day shall be discussed in class according to the Tentative Schedule (above).

GRADING:

Class and Lab Participations (Individual)	10%
Progress Reports and Presentations; (Individual)	05%
Determining Economic Viability of Project (Group)	10%
Researching the Level of Originality of the Project (Group)	10%
Mid-term Presentation (Group)	10%
Final Presentation (Group)	25%
Proposal/Technical Report (Individual)	20%
Project Display (Group)	10%

Letter grades will be assigned according to the guidelines:

A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: <60

ATTENDANCE:

Attendance in all labs and classes are required. I strongly recommend attending the class when we have an outside speaker. If for any reason you are unable to attend the class or the instructor's designated lab period, send me an email. Note the *direct* 10% of the grade allocated to your participation and the *indirect* percentages that may impact your grade when an on-going task is graded in a specific period while you are not attending that period.

STUDENT CONDUCT: Please respect your classmates and your instructor by avoiding disruptive behavior during class, such as habitually coming to class late, maintain steady conversation with neighbors during lecture, and making/taking calls on your cell phone.

Academic Integrity: Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at <http://www.studentaffairs.uno.edu>.

Accommodations for Students with Disabilities: It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to <http://www.ods.uno.edu>.

RELATIONSHIP OF THE COURSE TO PROGRAM OUTCOMES (Updated January 2010)

X	a. an ability to apply knowledge of mathematics, science, and engineering	X	g. ability to communicate effectively
	b. an ability to design and conduct experiments, analyze and interpret data	X	h. understand the impact of engineering solutions in a global and societal context
X	c. ability to design a system, component, or process to meet desired needs		i. recognition of the need for, and ability to engage in life-long learning
	d. ability to function on multi-disciplinary teams	X	j. knowledge of contemporary issues
X	e. ability to identify, formulate, and solve engineering problems		k. ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
	f. understanding of professional and ethical responsibility		

Remark: To remain consistent, Course Description and Student Learning Objectives are mostly similar to previous year’s syllabus. However, we encourage students to engage in “entrepreneurship” and “research” components as complementary part of the Design.

Created by: Parviz Rastgoufard Ph.D., 19 August, 2015.