

COURSE SYLLABUS

1. General Information:

Course Number: INEL/ICOM 4998
Course Title: UNDERGRADUATE RESEARCH
Credit-Hours: 3

2. Course Description:

Research project related to different areas in Computer Engineering or Electrical Engineering.

3. Pre/Co-requisites:

Prerequisite: Permission of the instructor

4. Textbook, Supplies and Other Resources:

Students will do their own literature search.

5. Purpose and Instructional Objectives:

This course is designed to give senior level Electrical/Computer Engineering students a hand on experience in the design of a solution in an unexplored area.

6. Course Goals:

After completing the course, the student should be able to analyze and design a solution to a real research problem.

7. Instructional Objectives and Requirements to complete the course:

After completing the course, all students are expected to:

- Identify a problem and recognize that there are many possible solutions to it.
- Create a solution making trade-offs in economic aspects, performance, safety, and social aspects.
- Design system components or modify existing ones to comply with the desired requirements.
- Recognized and explore new technologies that might be useful to solve future problems.

8. Laboratory/Field Work (If applicable):

Laboratory and field work are considered a major part of the class, and all students are expected to participate. Field trips outside campus might be required to complete the course.

Radios, tape recorders, and other audio or video equipment are not permitted in the lab or classroom at any time.

Smoking is not permitted in any area other than those areas designated for smoking.

Eating or drinking in the laboratories is prohibited.

9. Campus Resources:

General Library, Laboratories in the Electrical and Computer Engineering Department.

10. General Topics:

The student must select one of the following topics upon availability.

1. Nanito Game – Students are going to work under the CREST Phase II project on the development of a game based on the Nanito Character. Early stages of research: mostly literature research and planning phases.
2. FPGAs for Target Detection – Continuation of IAP project for the development of Reed Xiaoli algorithms on Digilent Inc FPGA platform. Goal is to detect targets near real time.

12. Instructor Information

Prof. Nayda G. Santiago, Ph.D.

Title: Associate Professor

Office: Stefani 413

Phone: 832-4040 Ext. 3510

Office Hours: Mon, Wed, Fri – 2:00pm to 4:00pm

E-mail / URL: Nayda.Santiago@ece.uprm.edu / <http://ece.uprm.edu/~nayda>

13. Grading

Please see attached evaluation sheet. In addition, reports (2), attendance to meetings, and oral presentations will be used for the evaluation.