

# ENEE359R

## Intermediate Topics in Computer Engineering: Reverse Engineering

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### **Fall 2013**

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Office hour Thursday 10:00 – 11:00 pm AVW 2446

Time and Place: Wednesday 3:30-5:30pm AVW 2446

Class Webpage: <https://myelms.umd.edu>

### **Course Text**

1. Eagle, Chris. The IDA Pro Book, 2<sup>nd</sup> Edition: The Unofficial Guide to the World's Most Popular Disassembler. CA: No Starch Press, 2011.
2. Intel 64 and IA-32 Architectures Software Developer's Manual. Volumes 2A and 2B. [online]. <http://www.intel.com/products/processor/manuals/>

### **Class Setting**

ENEE359R is delivered in a laboratory setting designed to accommodate a mixture of lecture and in-class exercises. Each student has a workstation to follow along with in-class demonstrations and to complete exercises and homework assignments. Full versions of IDA Pro are provided in the lab only. Students should plan their time both in and outside of class wisely due to this restriction. Note that a free version is available at <http://www.hex-rays.com/idapro/idadownloadfreeware.htm>

### **Assignments and Projects**

Each week students have in-class assignments to solidify concepts covered during lecture. Homework is assigned weekly that is either an extension of the in-class assignment or additional exercises.

**C Programming Project:** Each student will be required to implement a project in C to practice their skills in basic programming principles to include: memory management, structure definition/usage, procedural programming, and file input/output.

**Semester Project:** Each student will apply the material taught in class to a semester-long project that covers the construction and deconstruction of a network-based

application. First, each student will develop an application that consists of (at a minimum) a server and client performing a basic function. Second, students will apply concepts learned in class to fully analyze, exploit and break one of their peer's completed applications. The analysis concludes with writing a report and giving a presentation to the class on their findings and accomplishments.

The semester-long project is designed to serve as a replacement for a formal final examination.

## **Midterm**

3:30 – 5:30 pm, Wednesday, October 23.

## **Final Examination**

1:30 – 3:30 pm, Wednesday 12/18.

The final report and presentation will be used in lieu of a formal final examination. The report and presentation are due at the final exam time.

## **Grading**

|                          |     |
|--------------------------|-----|
| Homework:                | 15% |
| Midterm:                 | 15% |
| C Project:               | 10% |
| Semester Project Part 1: | 30% |
| Semester Project Part 2: | 30% |

## **Religious holidays**

If any homework, midterm, or the final exam is scheduled on a **religious holiday** that you are compelled to observe and you must make arrangement to take the exam/quiz on a different date, please contact the instructors no later than the second lecture.

## **Students with disabilities**

If you have a **documented disability** and wish to discuss academic accommodation with me, please contact the instructors no later than the second lecture.

## **Students with learning difficulties**

If you are experiencing difficulties in keeping up with the academic demands of this course, contact the Learning Assistance Service, 2201 Shoemaker Building, 301-314-7693. Their educational counselors can help with time management, reading, note-taking and exam preparation skills.

## **Academic dishonesty will not be tolerated.**

The University Code of Academic Integrity, which can be found at <http://www.inform.umd.edu/CampusInfo/Departments/IPO/> prohibits students from committing the following acts of academic dishonesty: cheating, fabrication, facilitating academic dishonesty, and plagiarism. Instances of academic dishonesty will be referred to Office of Judicial Programs.