Course: ENPM 613 – Software Design & Implementation
Semester: Fall 2015
Day(s): Thursday
Time: 7:00 PM – 9:40 PM
Location: JMP 2217 (DETS)
Instructor: Dr. Arnab Ray
Phone: 
Email: Aray@fc-md.umd.edu

Course Description

Statement of Course Goals/and or List of Student Learning Outcomes:

What the Course Is: How to use industry best practices to design and implement commercial software in a business setting (i.e. you get to know how is software produced industrially).

What the Course Is NOT: This is not a programming/development course. The students will be expected to be proficient in programming and know how to debug and compile their code on their own before they enroll (the project will be done in groups, so you can count on some amount of peer support).

List of Student Learning Outcomes: At the end of the course, the student should know and understand the basic concepts of software requirements, software design notations, software architectures, and software security by design. The course project will teach students the joys (and the travails) of working with a real customer (i.e. me), of how to scope your product, how to set expectations of the client, how to manage change (of requirements and design), how to develop a real product in a group, how to demo it and then how to make your design and implementation such that it can run through scenarios that the client comes up with (acceptance testing).

Grading Procedures (may be subject to change): Mid-terms (25%), Finals (25%). The Project is split up into 3 deliverables over the duration of the semester. a) Initial System Description and Requirements (10%) b) Design (10%) c) Final working demo (30%) which makes total Project 50% of your grade.

Required Technology: Java

Prerequisites: A sound knowledge of Java. Prior experience of having written significant amount of code in Java or an Object Oriented language (e.g. C++). If you do not know Java, you will be expected to learn that on your own. The final exam may contain snippets of code written in Java. Hence ability to read and understand Java syntax is a must. The course project will ask you to build a system based on Java in stages (mandatorily require the use of object oriented design concepts that will be taught in class)/

Method for Communication With Students Outside Classroom: Email

Emergency Protocol: In case of emergency, email professor at address above.

Required/Recommended Textbooks

Introduction to Software Engineering Design: Processes, Principles and Patterns with UML 2.-Christopher Fox, Addison Wesley
-Required?  N
Course Outline

Software design and implementation as a part of software engineering
Requirements (functional and non-functional)
Design notations----use case, sequence, state, deployment, timing, class diagrams
Software architecture---views, patterns and analysis
Practical design frameworks
Design patterns
Design and implementation for security

Code of Academic Integrity

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity of the Student Honor Council, please visit http://shc.umd.edu/SHC/HonorPledgeInformation.aspx.