CMSC 447: Software Development

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Course Description

This course is an introduction to the basic concepts of software engineering including software lifecycle, requirements analysis, design, coding, testing, and documentation. Professional ethics in computer science and the social impact of computing are discussed. Additional topics may include tools for software development, software metrics, and software maintenance. The objectives of the course are met using classroom presentations, guest lecturers, and a semester-long project developed in a team setting.

Objectives

The major objective of this course is to give the student real-life software development experience. This objective is accomplished through the student's participation on a team that will develop a single software product over the course of one semester. Product development will follow the full software development life cycle from requirements analysis through product delivery. More specific objectives are:

- To understand the software development life cycle, software process models, and processes
- To learn the definition, goals, and principles of software engineering and how to apply them
- To learn the tools and technologies that support the software development cycle
- To experience working in a software development team
- To experience taking a leadership role in a software development team
- To enhance verbal and written technical communication skills

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and

behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the Academic Integrity Resources for Students page, the Faculty Handbook (Sections 14.2-14.3), or for graduate courses, the Graduate School website.

Textbook and Other Resources

There is no required textbook for this course.

Grading

Your grade will contain elements of both individual and team accomplishments broken down as follows:

1. Midterm Exam: 15%
2. System Requirements Specification: 5%
3. Project presentation: 8%
4. Project Iteration Snapshot: 18% total each, 4 Iterations
    a. Iteration planning - required and graded for participation. -10% on iteration grade if missing
    b. Issue tracking
        i. Kanban (Group) 5% (of assignment grade)
        ii. Sizing (Group) 5%
        iii. Completion of Issues + Documentation (Individual) 20%
    c. Releases
        i. Documentation (Group) 5%
        ii. Release Deliverable (Individual) 45%
    d. Tests (Individual) 20%

Schedule

The course lectures will follow the ordering of the slides in this folder: https://drive.google.com/drive/folders/1WN9AwlmEIEgZmEfegJbENnXSPrpsx3kc?usp=sharing

Once group work begins, there will be one class period each iteration where we allocate the class time for a team meeting. A portion of the team meeting will include the professor. Unexcused absences from these in-class meetings will result in the loss of a letter grade (half of the documentation points) of that iteration.