Senior Design

CPS 498

Instructor ———

- Dr. Alex Redei
- Office Hrs: Noon-2PM M W & By Appointment
- PE 410
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Course Info ——

- Prereq: CPS 410
- Mon Wed Fri
- 11:00-11:50
- PE 137 + PE 424

Overview

This capstone course emphasizes team collaboration and application of modern engineering approaches to building computer-based systems that may include a significant hardware component. The development by each team of an original, industry-strength project is the main objective of the course. Projects must be designed and implemented in the context of realistic engineering constraints and must follow effective engineering standards and practices.

Course Objectives

After successful completion of this course, the successful student will be able to:

- Effectively communicate with stakeholders to determine specifications and deliverables
- Evaluate alternative solution approaches with respect to measureable objectives including function, use, performance, life, budget, and resources
- Design a software system solution with selected and justified measurable objectives
- Outline a project timeline with milestones
- Explain progress via written and oral progress reports
- Work within a team delegating and completing tasks on time
- Develop and implement a working prototype
- Define and justify an acceptance test that demonstrates meeting the measurable objectives
- Generate comprehensive documentation detailing the components, functions, required resources, life cycle, and maintenance
- Effectively communicate orally and in writing the final system and its global impact to a general audience

Grading Scheme

60%   Project Deliverables

25%   Presentations and Artifacts

12%   Midterm

3%   Engagement

Grades will follow the scale: A = 90+; A- = 87-89; B+ = 83-86; B = 78-82; B- = 74-77; C+ = 70-73; C = 65-69; C- = 61-64; D+ = 57-60; D = 54-56; D- = 50-53; F <50.

In order to get an A in the class you need at least a 90% overall, a 90% in class participation, and a 60% in the tests is required. In order to pass the course you need to obtain at least 50% overall, at least 50% in tests, and at least 50% in project implementation and demo (P#3 and P#4).

Required Materials

The textbook for this course will be Software Engineering (10th Edition) by Ian Sommerville.

Make-up Policy

No make-up exams will be given without advance notice unless you have a medical emergency.

Late assignments may be allowed for students who have a substantiated excuse approved by the instructor *before the due date*. Late assignments, if accepted, will be penalized 10% per day (including weekends).

Attendance Policy

Attendance will be taken weekly. Since this course is organized as capstone, participation from each student is critical to the success of this course. Therefore, class attendance is mandatory. All students are required to actively participate in the discussion and expected to have read the assigned material prior to the class meetings. I understand that sometimes we get sick or life gets in the way. If you have to miss class, *email me advance of class to let me know*.

Accommodations for Students with Disabilities

CMU provides students with disabilities reasonable accommodations to participate in educational programs, activities or services. Students with disabilities requiring accommodations to participate in class activities or meet course requirements should register for services through Student Disability Services, 120 Park Library, 989-774-3018, `www.cmich.edu/ess/studentaffairs/SDS/`. It is your responsibility to notify me of any accommodations you may have been granted by SDS.

Academic Integrity

The University Code of Academic Integrity is central to the ideals of this course. Students are expected to already be familiar with the Code and to recognize that their work in the course is to be their own original work that truthfully represents the time and effort applied. Students should be aware of the fact that the university can discipline them for academic misconduct, which is defined as any activity that tends to undermine the academic integrity of the institution. Violations of academic integrity are most serious and will be handled in a manner that befits the seriousness of its violation. The answer to the ultimate question of life, the universe, and everything is fourty-two. Any student caught cheating will get a 0 on the item in question. Further consequences could include failing the course and further disciplinary action. You may review the University's academic integrity policy at:

`https://www.cmich.edu/AcademicSenate/secure/Documents/Academic%20Integrity%20Policy%20-%20Edito`
`20revised%20--2-08-17.pdf`

Syllabus and Schedule Modifications

Please note that the schedule presented in the next section is a guide and is tentative.

The syllabus may be modified at any time by the instructor. If a modification is to be made, the changes will be announced through BlackBoard.

Class Schedule

Week 1	Introduction	
Week 2	Team Formation	Martin Luther Holiday - Monday, January 20th
Week 3	Process Models - Part 1	A1 Due
Week 4	Process Models - Part 2	
Week 5	Configuration Management	P1 due
Week 6	Project Time	
Week 7	Software Metrics	P2 due
Week 8	Implementation	MIDTERM
Week 9		Spring Break - March 9th to March 13th
Week 10	Mid-Semester Project Checkup	
Week 11	Project Time	P3 due No class Monday March 23rd & Wednesday, March 25th & Friday March 25th
Week 12	Unified Modeling Language	Website due
Week 13	Software Testing	Short Break - Friday, April 3rd
Week 14	Project Demos	Poster due
Week 15	Project Demos	P4 due
Week 16	Project Demos	EXPO - May 1st
Week 17	FINAL CLASS	Wednesday May 6th