CSE 435: Software Engineering (Spring 2022)
Michigan State University
Course Syllabus

Course Information

Instructor
Michael Austin Langford
Office Hours: Tue, Thu: 4:20 PM to 5:20 PM
Email: langfo37 at msu dot edu

Teaching Assistants
Kira Chan
Email: chanken1 at msu dot edu

Lectures
Note: Per recent university guidance, the first three weeks of the lectures will only be given remotely. Stand by for future updates.

This course is tentatively offered in-person with an option for students to attend online during the normal class session. Students can choose to attend in-person or via a simultaneous online Zoom offering. Attendance is required, either in-person or online. Exams will require in-person attendance.

In-Person
Location: Engineering Building 2250
Dates: Jan 11 through Apr 28, 2022
Time: Tue, Thu: 3:00 PM to 4:20 PM

Online (via Zoom)
URL: (see D2L for details)
ID: (see D2L for details)
Password: (see D2L for details)

Final Exam
Location: Engineering Building 2250
Date: May 5, 2022
Time: Thu: 5:45 PM to 7:45 PM

Course Objective
This course is designed to present students with an overview of software engineering. Students will be exposed to and apply current technology to design and develop software. Both the theoretical and practical aspects of software engineering will be presented and applied in the course. Students will apply software engineering techniques to homework assignments and software project elements throughout the course. The objective of the laboratory portion of the course is to expose students to commonly used tools for software engineering. Students will have opportunities to develop and/or improve their technical writing and software development skills throughout the course, with particular emphasis placed on analysis and design.
Prerequisites

- CSE 331: Algorithms and Data Structures
- CSE 335: Object-Oriented Software Development
- Completion of Tier I Writing Requirement

Any exceptions must be discussed with and approved by the instructor. Students should be familiar with at least two higher level programming languages, the basic concepts of computer organization and operating systems, and basic formal concepts of machines and languages, algorithms and data structures, discrete structures, design patterns, and object-oriented design.

Textbook and Recommended Reading

Homework and examination questions may be drawn from content covered by the required text.

Required


Optional


Tentative Topics

- Software Processes
- Requirements Engineering
- Design Patterns and Strategies
- Software Architectures
- Quality Assurance and Software Maintenance
- Software Testing Techniques
- Project Planning
- Emerging Trends

Tentative Evaluation

- In-Class Participation: 10%
- Homework Assignments: 40%
- Examinations (2): 50%

Course Materials and Video Recordings

All course materials and announcements will be posted on D2L. All course materials, including videos and all project artifacts, are to be used by students currently enrolled in this course and are not to be shared or distributed otherwise.

Assignments

All assignments, homework and project-related, are to be submitted on D2L prior to the beginning of class on the assigned due date, unless otherwise noted by the instructor. Late work will not be
accepted without prior approval. D2L will be used for submitting all assignments unless otherwise noted.

Examinations
Two exams will be given. Each exam will contain questions covered by the required textbook, any additional required readings, homework assignments, in-class discussions, and lectures. Scores less than 60% can be considered as failing.

Course Policies
Integrity and Ethics
Article 2.3.3 of the Academic Freedom Report states that “The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards.” Additionally, this course adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations.

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may NOT submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the http://www.allmsu.com web site to complete any course work in this course. Students who violate MSU rules may receive a penalty grade, including—but not limited to—a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work.

For more information see the Academic Integrity Resource Page by the Office of the University Ombudsperson.

[link] https://ombud.msu.edu/resources-self-help/academic-integrity.

Disruptive Behavior
Article 2.3.5 of the Academic Freedom Report (AFR) for students at Michigan State University states that “The student’s behavior in the classroom shall be conducive to the teaching and learning process for all concerned.” Article 2.3.10 of the AFR states that “The student has a right to scholarly relationships with faculty based on mutual trust and civility.” General Student Regulation 5.02 states that “no student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Faculty Judiciary Process.

Netiquette Guide for Online Courses
Guidelines are provided by the MSU College of Engineering for appropriate behavior when participating in an online class and associated activities. Deviations to these guidelines may be considered disruptive behavior and will be handled accordingly.

[link] https://www.cse.msu.edu/~cse435/Handouts/Admin/NetiquetteGuideOnlineClasses.pdf