

# Software Engineering (CSE435)

## Fall 2024

Instructor: Dr. B. Cheng, chengb at msu dot edu  
**Office Hours:** M, W: 4:20-5:00 or by appointment

TAs: Kira Chan, (chanken1 at msu dot edu); Sol Zilberman (zilberm4 at msu dot edu)  
**Office Hours:** Tues (Kira): 5-6 pm; Thurs (Sol): 5-6 pm; or by appointment

<https://www.cse.msu.edu/~cse435>

Class: M,W: 3:00-4:20  
(Exam1: Oct. 14 (Monday); Exam2: Nov. 27 (Wednesday)  
Final schedule (Customer presentations): Dec. 9, Monday, 3-5 pm

Recommended Text:

- Software Engineering: A Practitioner's Approach (e-book) by Pressman, Maxim, McGraw Hill, (9th Edition) 2019. (Check for link for accessing book via D2L email for CSE435 (Instructor will discuss various access options on first day of class.)
- UML Bible, Tom Pender, Wiley, 2003. (Available from Amazon).

### Tentative Course Evaluation

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|----------------------------------|----|
| Homework, in-class participation | 15 |
| Exams (2)                        | 50 |
| Project (several deliverables)   | 35 |

### Course objectives:

This course is designed to present students with an overview of *Software Engineering*. Students will be exposed to and apply current technology used to 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. Students will have opportunities to develop and/or improve their technical writing and software development skills during the course of the term, with particular emphasis placed on analysis and design.

### Tentative Topics to be covered include:

- Software Process and project planning
- Requirements Engineering
- Design strategies
- Software Architectures
- Informal and formal specification and analysis techniques

- Model-driven development
- Testing techniques
- Software maintenance and configuration management
- Prototyping and presentation

**Requirements:** CSE335 or its equivalent is a pre-requisite. 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.

### Integrity and Ethics:

- “*Academic dishonesty* at Michigan State University is defined by the General Student Regulations as conduct that violates the fundamental principles of truth, honesty, and integrity. This could encompass everything from cheating on an exam, using another person’s work without proper attribution, using information from other sources and representing it as your own (e.g., Chegg, AI-based systems, etc), or collaborating with other students on an assignment without an instructor’s permission.” ([ombud.msu.edu/resources-self-help/academic-integrity/what-is](http://ombud.msu.edu/resources-self-help/academic-integrity/what-is)).
- Student Rights and Responsibilities (SRR) states that “The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards.”
- In addition, the CSE435 adheres to the policies on academic honesty as specified in [reg.msu.edu/academicprograms/](http://reg.msu.edu/academicprograms/):

Protection of Scholarship and Grades General Student Regulations 1.0; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide and/or the MSU Web site: [www.msu.edu](http://www.msu.edu).)

- Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, project work, quizzes, 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 Chegg, the website <http://www.allmsu.com>, LLMs (e.g., ChatGPT, Bard, and other AI-based tools, etc.) to complete any course work in CSE435, unless authorized to do so. Students who violate academic dishonesty rules as stated here may receive a penalty grade, including—but not limited to—a failing grade on the assignment and/or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also <https://ombud.msu.edu/university-policies-guidelines>.)
- Additional Resources regarding Academic Integrity:
  - Spartan Experiences: General Student Regulations covering Academic Integrity  
<https://spartanexperiences.msu.edu/about/handbook/regulations/general-student-regulations>
  - Ombudsman Site regarding Academic Integrity:  
[ombud.msu.edu/resources-self-help/academic-integrity/what-is](http://ombud.msu.edu/resources-self-help/academic-integrity/what-is)

**Disruptive Behavior:** Article 2: Academic Rights and Responsibilities 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.” (Disruptive behavior includes use of **cell phones, interactive sessions using laptops or other electronic devices**, etc.)

**Netiquette Guide for Online Courses:** The following link contains guidelines 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.  
<https://www.cse.msu.edu/~cse435/Handouts/Admin/NetiquetteGuideOnlineClasses.pdf>

**Examinations:** Two exams will be given. The exams will contain questions covering material in the text, required reading, homework (including modeling and prototyping exercises), project assignments, in-class discussions, and the lectures. Scores of less than 60% can be considered to be failing.

**Make-up Exams:** No make-up exams will be given except for documented illness or personal emergency. To be eligible for a make-up, you must notify the instructor or the department office prior to the time of the exam and provide documentation for the situation when arranging the make-up. A student not taking an exam will receive a grade of 0.

**Project:** Not turning in one of the project deliverables on the due date may result in the student receiving a 0 for the project component of their respective grades. After each deliverable, each team member will be completing peer review forms to assess the contributions of each team member, including self-assessment.

**Homework/Labs:** All assignments (homework and project- related assignments) are to be submitted via D2L at least one (1) hour prior to the BEGINNING of class on the due date, unless otherwise noted by the instructor.

Late work is not accepted without prior approval. D2L will be used for submitting all assignments unless otherwise instructed.

**Course materials and videos:** All course materials, including videos and all project artifacts, are to be used by students currently enrolled in the course and not to be otherwise shared/distributed.