

CSci 387: Software Design and Development

Fall 2024

Instructor:	Timothy Holston (tholsto@olemiss.edu), Weir 216
Phone:	(662) 205-6231 (Google Voice Number)
Office Hours:	Monday and Wednesday 9AM – 11AM and 1PM – 3PM (<i>Other times are available see Appointment Calendar</i>)
Class Time:	T TH 1:00 p.m. – 2:15 p.m.
Location:	Weir 235
Recommended Text:	Software Engineering: Basic Principles and Best Practices, by Ravi Sethi, published by Cambridge University Press, ISBN-13: 978-1-316-51194-7.

Catalog Description: Study of techniques for the construction of large, complex software systems, including project management, requirements analysis, specification, design, development, testing, documentation, deployment, and maintenance. Students develop software systems in a group structure that simulates an industrial setting.

Prerequisite: CSci/CIS 211 and CSci 223

Course Outcomes: At the end of this course, students will be able to:

1. Apply concepts of software development to create an application that satisfies stakeholders.
2. Differentiate between software development processes.
3. Distinguish between the different stages of software development.
4. Understand the different phases of software design and development.
5. Describe how version control can be used to help software release management.
6. Describe the issues that are important in selecting a set of tools for the development of a particular software system, including tools for requirements tracking, design modeling, implementation, build automation, and testing.
7. Develop both technical and collaboration skills for working in software development teams

Topics Coverage:

1. Software Engineering Process
2. Software Engineering Models
3. Agile Models
 - a. Scrum
 - b. The XP Framework
4. Databases
5. Web Development
6. Requirements

- a. Analysis
 - b. Modeling
- 7. Designing
- 8. Architecture
- 9. Software Testing
 - a. Component Level
 - b. Integration Level
- 10. Quality Metric
- 11. Software Security Engineering

Other topics may be added as the semester progresses.

Grading:

Project

<i>Project Proposal</i>	5%
<i>Requirements Document</i>	15%
<i>Testing Plan</i>	10%
<i>Oral Presentation</i>	15%
<i>User Manual</i>	15%
<i>Source Code</i>	10%
Individual Assignments (2)	15%
Quizzes(pop) (~6)	15%

Letter Grade Scale:

A (100 – 90), B (89 – 80), C (79 – 70), D (69 - 60), F (59 – 0)

Important Dates (*Bolded dates could possibly change*)

August 30th	Deadline to complete CATME survey
September 12th	Prospectus Submission
September 16 th	Mandatory drop date for non-attendance
September 24th	Submit Individual Requirements Document
October 10th	Submit Individual Database Assignment
October 14 th	Last day to withdraw from classes.
October 24th	Submit Group Requirements Document
November 14th	Submit Testing Plan
November 22nd	Submit User Manual and Source
December 3rd, 5th, 12th	Project Presentations
December 5 th	Last Day of Class

Project Information: The project is team-based. Teams will be formed and evaluated using Comprehensive Assessment of Team Member Effectiveness ([CATME](#)). Instructor will provide information through email for login and what to complete. Any additional information will be posted on blackboard.

Late Assignments: No student work will be accepted late if not approved by instructor prior to the due date. *(There is an exception when the student has a medical emergency which doesn't allow for advanced notice.)*

Attendance Policy: This course is a traditional face-to-face course and students are expected to attend each session. If a student is unable to attend a class session, they should email the instructor *before* the scheduled session, if possible, to inform the instructor of their absence. For *enrollment verification*, instructor will take attendance each day the class meets until all students are verified or until the mandatory drop date outlined in the academic calendar for the semester the course is scheduled. For any reason, if a student fails to take a pop quiz, they will receive a zero for that quiz score. One (1) pop quiz will be dropped at the end of the semester.

Academic Integrity: The University of Mississippi seeks to support and sustain a safe and scholarly community of learning dedicated to nurturing excellence inside and outside the classroom. The University expects all students to familiarize themselves with the values and standards reflected in its policies and to honor those values and standards in their conduct as individuals and groups. These policies are outlined in the M Book. The University Policy Directory gives a complete listing of the policies.

As a student in Computer Science, you are expected to conduct yourself in a professional and ethical manner according to the policies, procedures, and expectations of the Department of Computer and Information Science, School of Engineering and College of Liberal Arts, University of Mississippi, and the discipline of computer science. **This course will strictly follow the University's academic discipline policies and procedures. Academic misconduct may result in penalties ranging from a grade reduction on an assignment to expulsion from the course, depending on the severity of the violation.**

Use of Artificial Intelligence: Generative AI solutions exist and can support you as you go through this course. This course doesn't prohibit the use of solutions; however, provide limitations on how to use such solutions for coursework. For this course, any use of generative AI solutions should be formally disclosed (written in documents and stated on slides during presentation), if any part of the project and assignments utilize such solutions. The use of these solutions should be limited to the "*look and feel*" of software systems. All functionality of software system must be crafted by the development team.

Disability Access and Inclusion: The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content,

inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are registered with SDS, you must log in to your Rebel Access portal at <https://sds.olemiss.edu/rebel-access-portal> to request approved accommodations. If you are NOT registered with SDS, you must complete the process to become registered. To begin that process, please visit our website at

<https://sds.olemiss.edu/apply-for-services>. SDS will:

1. Complete a comprehensive review to determine your eligibility for accommodations,
2. If approved, disseminate to your instructors a Faculty Notification Letter,
3. Facilitate the removal of barriers, and
4. Ensure you have equal access to the same opportunities for success that are available to all students.

If you have questions, contact SDS at 662-915-7128 or sds@olemiss.edu.

Student Counseling Services: Being a student is difficult. You may experience emotions and challenges that interfere with your course work. Having anxiety, relationship problems, depression, or substance abuse issues can lead to lack of motivation and make concentrating difficult. This is not uncommon. If you experience any of these, know that you are not alone. Help is available! We are fortunate to have an excellent counseling center available to all students. They can be reached at 662-915-3784 or counsel@olemiss.edu. If you are uncomfortable making the contact, come see me and I will help you get the resources you need.

Students and Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact U Matter Student Support and Advocacy at (662) 915-7248 or kforster@olemiss.edu. Students who struggle to afford groceries or access sufficient food to eat are especially encouraged to visit the University Food Bank in 213 Kinard Hall or email olemissfoodbank@gmail.com. Students who are struggling to meet their basic needs may also find the following website helpful: FindHelpLafayetteCounty.org.

Sexual Assault and U Matter: Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources in the Title IX Office in Martindale-Cole 270 D or at (662) 915-7045

U Matter Student Support Services and Advocacy provides free and confidential information, consultation, support, advocacy to University of Mississippi students and graduate students who have experienced a traumatic, disturbing or life disruptive event. U Matter is not a part of the police department, or the Equal Opportunity and Regulatory Compliance office, and is a confidential resource for students.

If you have questions about U Matter services, or if you'd like to talk with an advocate , please call (662) 915-1059 or email sapoole@olemiss.edu. If you would like to meet with a U Matter Advocate, please stop by the Ole Miss Union Suite 301, Monday through Friday from 8:00 a.m. – 5:00 p.m.

Flexibility Clause: Content in this syllabus is subject to change by the instructor.