SYLLABUS
CMPS 4113 Software Engineering

Catalog Description: Application of structured methodology and formal methods to the design, implementation, and documentation of computer software systems. Includes an introduction to the management of software development teams, requirements analysis, testing procedures, and user interface design. Discussion of legal, social, and ethical issues.

Instructor:	Dr. Catherine V. Stringfellow
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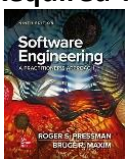
Office Hours:	M 10:30-11:30am, W F 10-11am, T 1:30-2:30pm, R 11-12pm, 1:30-2:30pm & by Appt

Prerequisites: C or better in CMPS3013 and 6 advanced hours in computer science. The successful student should have competent skills in procedural and object-oriented programming, knowledge of data structures and algorithm analysis, and knowledge of statistical and probabilistic mathematics, as well as knowledge of other types of software development (e.g., web/mobile, client/server, HPC, numerical solutions, etc.)

Required Text:



- Software Engineering: a Practitioner's Approach
  -13: 9781259872976/ **DIGITAL ISBN-13:** 9781260423297
- As well as papers from the literature in the field and sections from other texts

Additional References:
https://www.draw.io/
http://creately.com/Draw-UML-and-Class-Diagrams-Online
http://www.gliffy.com/#uml-diagrams

General Course Objectives: The purpose of this course is to introduce theories, methods, and tools in software engineering for developing software systems. This course is a study of the following topics:

1. Software development life cycle
2. Object oriented analysis and design;
3. Issues in testing and maintenance of large software projects.

Specific Course Objectives: Upon completion of this course, students should:

1. Understand the role of formal specifications in project design and be able to develop and use such specifications;
2. Be aware of and able to use Computer Aided Software Engineering (CASE) tools, especially those for modeling with the Unified Modeling Language (UML);
3. Be able to develop object oriented applications of complex programming tasks in a team setting; and

4. Understand the role of testing in the software development cycle and be capable of test software developed in the course.

Instructional Method: This course will involve a mixture of formal lectures; class meetings for group work; and student presentations of the work in progress as well as from readings from the literature.

Course Assignments and Evaluation: Students will be asked to design, implement and test a large piece of software as a team. Work on the project will consist of four stages corresponding to requirements specification, design, implementation, and testing. This project will represent the largest part of the overall grade.

Students will also research and present a software engineering tool to the class with a partner (the presentation will be at a timely point during the semester). A list of tool topics/apps to select from will be provided. There will also be a few short assignments other course topics. There may be quizzes. There will also be an open book midterm and open book final on the topics of the course. Students must be on-time and present for all student presentations.

Final grades will be based on the following criteria.

Activity	**Percentage of Grade**
Midterm	15%
Final	15%
Assignments (Participation, Homework, Quizzes)	10%
Tool Presentation	10%
Team Project	50%

Grading Scale is as follows: 90-100% is an A, 80-89% is a B, 70-79% is a C, 60-69% is a D, and 0-59% is an F. NOTE: The instructor reserves the right to abandon this grading scheme, if project work is not completed. If that happens, the final will harder, longer and probably be worth MUCH more!!!

COURSE AND DEPARTMENT POLICIES

Attendance Policy: Students with more than three unexcused absences will be dropped from the course. It is imperative students attend their group meetings both in and out of class, as this can impact their contribution to the project and hence their grade. Occasional in-class time will be given for group meetings.

Late Work: Late work may be submitted within 48 hours of due date/time except for the last week of class, but there will be a 10% penalty. assessed.

Make Up Work/Tests/Quizzes: Students need a valid university excuse (e.g., excuse from the doctor, death in the immediate family, etc.) to make up work or tests. If you know ahead of time that you will miss a quiz or exam, please arrange to take it early. Refer to MSU Texas Student Handbook.

Computer Requirements: Taking this class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class. ***Personal computer technical difficulties will not be considered a reason for extra time to submit assignments, tests, or online discussion postings.*** Online class material can be accessed from any computer in the world which is connected to the internet. Computers are available on campus in various areas of the buildings, as well as the Academic Success Center. Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The university cannot work directly on student computers due to both liability and resource limitations, however they are able to help you get connected to our online services. For help, log into **D2L.**

Policy on Testing Process

The Department of Computer Science has adopted the following policy related to testing.

- All bags, purses, electronics, including smart watches (turned off), books, etc. will be placed in the front of the room during exams, or in an area designated by the instructor.
- Unless otherwise announced by the instructor, nothing is allowed on the desk but pen/pencil/eraser and test papers.
- A student who leaves the room during an exam must turn in the test and will not be allowed to return.

Academic Misconduct Policy & Procedures

Academic misconduct is cheating, collusion, and plagiarism: it is the act of using either published or unpublished source material of other students, persons, or generative AI (unless there are instructions that allow it), and must follow accepted techniques of crediting. The Department of Computer Science has adopted the following policy related to academic misconduct. The policy will be applied to all submission of work for credit as determined by the instructor of the course, e.g., assignments, quizzes and exams. (See below for link to MSU definitions.)

- 1st instance of cheating in the program: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. If the final grade in the course, does not result in a one letter grade reduction, the student will receive a one letter grade reduction in course.
- Further instances of cheating in any course within the program: The student will receive a grade of F in the course & be removed from the course.
- All instances of cheating will be reported to the Department Chair, the MCOSME Dean, the Dean of Graduate Students, if a graduate student, and the Office of Rights and Responsibilities, who may decide at their own discretion to impose a stiffer sanction based on knowledge of other instances of cheating at MSU Texas.

Note: Showing your work to another student is collusion – it is academic misconduct.

All submitted work using sources (other than your own brain) must include citations and a reference page using IEEE format. No quoted material will be accepted without prior approval.

See Also: MSU Student Handbook: Appendix E: Academic Misconduct Policy & Procedures
https://msutexas.edu/student-life/_assets/files/handbook.pdf

Inclement Weather

Classes (and quizzes) may be held online in D2L, in cases of inclement weather. Online courses will be available under Virtual Classroom under the Communication tab.

UNIVERSITY POLICIES AND PROCEDURES

Student Resources: Quick access to several student resources can be found at Student Resources.

Student with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from disability support office during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Disability Support Office has been provided. For additional information you may contact the Disability Support Office in Clark Student Center 168 - Phone: (940) 397-4140

Policy on Concealed Handguns on Campus
Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage on Campus Carry at **https://msutexas.edu/police/policies-laws/index.php.** If you have questions or concerns, please contact Interim MSU Chief of Police at steven.callarman@msutexas.edu

Refer to MSU Student Handbook**, https://msutexas.edu/student-life/_assets/files/handbook.pdf**
for all other policies.

IMPORTANT DATES

See **https://msutexas.edu/registrar/calendars.php** for Important Dates.