

SYLLABUS

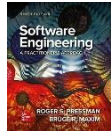
CMPS 4113 Software Engineering

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
Office:	Bolin Science Hall, Room 126A
Office phone:	397-4578
E-mail:	<i>catherine.stringfellow@msutexas.edu</i>
Office Hours:	MW 2:30-3:30pm, WF 10-11am, TR 2-3:30pm & 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 with/or without Connect

- ISBN-13: 9781259872976/ **DIGITAL ISBN-13:** 9781260423297
- With Connect: ISBN-13: 9781260986303

Papers from the literature in the field as well as sections from other texts may also be distributed, as well as a list of other useful books available in the library.

Additional References:

<https://www.draw.io/>
<http://creately.com/Draw-UML-and-Class-Diagrams-Online>
<http://www.glify.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.

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

Academic Misconduct Policy & Procedures

Academic Dishonesty : Cheating, collusion, and plagiarism (the act of using source material of other persons or generators, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). The Department of Computer Science had adopted the following policy related to cheating (academic misconduct). The policy will be applied to all instances of cheating on assignments and exams as determined by the instructor of the course. (See below for link to MSU definitions.)

- 1st instance of cheating in a course: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. The student will receive a one letter grade reduction in course.
- 2nd instance of cheating in a course: The student will receive a grade of F in course & immediately be removed from course.
- All instances of cheating will be reported according to MSU Policy

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

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/_assets/files/pdfs/spring23front.pdf for [Important Dates](#).