SYLLABUS

CMPS 5153 Advanced Software Engineering

Course Description:
A study of the process of creating large software systems. Encompasses system design, development, maintainability, testing, and documentation. Emphasis is on concepts and practices that reduce software cost and increase reliability and modifiability.
The course will also focus on techniques for software engineering project management (or process control), especially project planning and tracking, requirements specification, software documents, object-oriented design, and testing.

Instructor: Dr. Catherine Stringfellow
Office: Bolin Science Hall BO 128C (Come in through BO126)
Phone: 397-4578
E-Mail: catherine.stringfellow@msutexas.edu
OfficeHours: M 1:30-3:30pm, T R 9:30-11am, 2-3:30pm & by appt

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Prerequisites: Twelve hours of graduate computer science
Required Text: *Software Engineering: A Practitioner's Approach* by Pressman, 7th ed., customized version. Use ISBN#: ???to purchase in bookstore or online at McGraw-Hill. You should also utilize papers from the literature in the field as well as other texts. There are many useful books available in the library.

General Course Objectives: This course is a study of the following topics:

- Formal project specifications;
- Project planning and management;
- Use of process models in software engineering;
- Issues in testing large software projects.

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

- Understand the role of formal specifications in project design and be able to develop such specifications;
- Be able to design an interface and develop a prototype for a complex software system;
- Understand the role of testing in the software development cycle and be capable of developing a test plan;
- Be aware of and able to use Computer Aided Software Engineering (CASE) tools.

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:
Project: Students will be asked to plan and manage the design, implementation and testing of a large piece of software. They will create a set of documents for the project. Work on the project will consist of four stages corresponding to requirements analysis, interface design/prototyping, implementation, and testing. The major project described above will represent the largest part of the final grade.

Term Paper: Students will write a term paper on an approved software engineering topic.

Presentation: Students will also present the term paper topic (at a timely point during the semester and at the NTASC in April). Not being ready to go when you are scheduled will be penalized 10%.

Homework: There will be a few short homework assignments involving course topics. All homework is due at the beginning of class on the due date.

Exams: There are two exams. The only acceptable reason for missing an exam is with a valid university excuse (e.g., excuse from the doctor, death in the immediate family, etc.) A makeup exam will only be to those students who have a valid excuse. If you know ahead of time that you will miss an exam, please see me to take it early.

Final grades will be based on the following criteria:

Activity	Percentage of Grade
Midterm	15%
Final	20%
Assignments (Homework, Quizzes)	5%
Paper and Presentation	15%
Team Project	45%

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 probably be worth MUCH more!!!

Course and Department Policies:

Behavior in the classroom: Students are to assist in maintaining a classroom environment that is conducive to learning. This means that the presence of electronic devices other than your calculator are not to be seen, heard, or implied, ever. Questions are encouraged and discussion is acceptable, provided it is pertinent and does not distract from the lesson.

Late Work: Late work is only accepted up to one week late and will result in -10% on the grade.

Make Up Work/Exams/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 **College Policies and Procedures Manual** or at *https://www.msutexas.edu/humanresources/policy/index.asp.*

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 (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 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, contact the Disability Support Office in Clark Student Center 168 - Phone: (940) 397-4140

Academic Misconduct Policy & Procedures: Cheating, collusion, and plagiarism (the act of using source material of other persons, 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. *In addition, 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 to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

See Also: MSU Student Handbook: Appendix E: Academic Misconduct Policy & Procedures
https://msutexas.edu/Assets/documents/student-life/2013-14-Student-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 **MSU Campus Carry Policy** at *https://msutexas.edu/campus-carry/rules*-policies**.** If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins at **patrick.coggins@msutexas.edu**.

Recording of Class Lectures:

Permission must be requested in writing and obtained from the instructor before recording of class lectures. If permission is granted, the recording may only be used by the student making the recording. Recordings (or any class materials) may NOT be posted on any internet source without written permission of the instructor. Failure to adhere to the policy may result in removal from the course with a grade of F or other appropriate punishment.

Important Dates

Visit MSU's Registrars website **Important Dates** at
https://msutexas.edu/registrar/_assets/files/pdfs/fall19front.pdf.
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