

Advanced Software Engineering COSC-5370.001
Department of Computing Sciences
Fall 2017

A. COURSE INFORMATION

Course number/section: COSC-5370.001
Class meeting time: MWF 9:00-9:50 AM
Class location: OCNR-132
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Longzhuang Li
Office location: CI-323
Office hours: MWF 11:00 AM -12:00 PM
T 9:30 AM – 11:30 AM
Telephone: 825-2406
e-mail: Longzhuang.Li@tamucc.edu
Appointments: Call me or send me an email

C. COURSE DESCRIPTION

Catalog Course Description

Areas studied include engineering principles and their application to the design, development, testing, and maintenance of large software systems, tools and processes for managing the complexities inherent in creating and maintaining large software systems.

D. PREREQUISITES AND COREQUISITES

Prerequisites

COSC 5321

Corequisites

None

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Object-Oriented and Classical Software Engineering, Eighth Edition, by Stephen R. Schach, ISBN 978-0-07-337618-9, McGraw-Hill, 2010.

Optional Textbook(s) or Other References

- Software Engineering: A Practitioner's Approach, R.S. Pressman, McGraw Hill, 8th Ed.
- Software Engineering, I. Sommerville, Pearson Education, 9th Ed.

Supplies

None

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course's student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Understand the concepts of software engineering;
2. Practice good analysis and design techniques;
3. Utilize Unified Modeling Language (UML) models;
4. Understand and utilize new approaches in software engineering;
5. Apply software quality assurance techniques;
6. Discuss current research in software engineering;
7. Understand effective project management techniques;
8. Practice teamwork activities.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The class includes lectures, presentations, term papers, and term projects. Students are expected to actively participate in the discussion.

H. MAJOR COURSE REQUIREMENTS AND GRADING

ACTIVITY	% of FINAL GRADE
Mid-term exam and final exam	15 + 20
Research paper presentation	10
Team project	15
Team effort evaluation	5
Term research paper	20
class attendance	5
class participation	10

I. COURSE CONTENT/SCHEDULE

WEEK	<u>TOPIC</u>	CHAPTER(S)	ASSIGNMENTS
1	The Scope of Object-Oriented SE	Introduction, Chapter 1	
1	Software Life-Cycle Models	Chapter 2	
2	The Software Process	Chapter 3	Term Project
3	Teams	Chapter 4	
4	The Tools of the Trade	Chapter 5	
5	Testing	Chapter 6	
6	From Modules to Objects	Chapter 7	Research Paper Presentation
7	Mid-term exam	Chapters 1-7	
8	The Requirements Workflow	Chapter 11	Term Research Paper
9	Object-Oriented Analysis	Chapter 13	
10	Design	Chapter 14	
11	Implementation	Chapter 15	
12	Postdelivery Maintenance	Chapter 16	
13	Research paper presentation		
14	Final Exam	Chapters, 11, 13, 14, 15, 16	

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES**Attendance/Tardiness**

The students are expected to come to class on time every day the class meets. Read the chapter to be discussed before coming to class. Ask questions of material you do not understand. If I cannot explain the answers to your satisfaction, make an appointment with me to discuss the question. Demonstrate integrity, maturity, and ethical behavior.

Late Work and Make-up Exams

Assignments are accepted until MIDNIGHT on the due date. Every homework assignment will list a due date for full credit. Late assignments will lose 10% of the maximum score per day. Makeup exams will not be given under normal

circumstances. If you notify me immediately that serious, unavoidable, documentable (e.g., with a letter from your doctor) circumstances have arisen, I will discuss options for replacing the missing grade. (For example, I may allow the grade earned on the comprehensive final to replace the grade for the missed exam.) Excused absences due to school sponsored activities, religious observations, family rituals, etc. should be discussed in advance.

K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one's own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**

Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor's ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. ***Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.*** Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically

result in your being dropped from the class. Please consult the Academic Calendar (<http://www.tamucc.edu/academics/calendar/>) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at <http://sci.tamucc.edu/students/GradeAppeal.html>. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

<http://disabilityservices.tamucc.edu/>

- **Statement of Academic Continuity**

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- **Academic Advising**

The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College's Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.