CSC 305 - Software Engineering
Section 0001, Fall 2014

Instructor:	Dr. Suzanne Mello-Stark
Office Location:	Tyler Hall 257
Telephone:	874-2701
Email:	suzanne@cs.uri.edu (best way to reach me quickly)
Office Hours:	Tuesday and Thursday 1:30-2:30 pm or by appointment
Class Days/Times:	Lecture: Tuesday and Thursday 3:30- 4:45 pm Lab 1: Monday 11am-12:45 pm Lab 2: Monday 2:00 – 3:45 pm
Classroom:	Lecture: Gilbreth Hall 101 Lab 1: Quinn Hall 103 Lab 2: Wales Hall 223
Prerequisites:	CSC 301

Course Description

Programming environments and methodologies for the design, development, testing, and maintenance of large software systems. Student teams will develop a substantial software product from requirements to delivery using disciplined techniques. (Lec. 3, Project 3) Pre: 301.

Student Learning Outcomes

Upon successful completion of this course, each student will be able to:

Manage a software project throughout the software life-cycle (requirements, high-level design, detailed-design, testing and release).
Author several artifacts including a requirements document with UML diagrams, several design documents and a software test plan.
Demonstrate the ability to plan, schedule and estimate risk of a software project.
Identify specific components of a software design and recommend improvements in the area of software safety and security, parallel programming, high performance as well as any potential ethical considerations.
Create software metrics for measuring progress of the team as well as the software project.

Software and Hardware

We will be using various software tools and languages throughout the course. Students are expected to be resourceful and learn the technologies necessary on their own. Laptops are required in class.

Required Texts

Software Engineering, 9/E
Ian Sommerville, *University of St Andrews, Scotland*
ISBN-10: 0137035152 • ISBN-13: 9780137035151
©2011 • Addison-Wesley • Cloth, 792 pp
Published 03/03/2010

UML Distilled Third Edition, A Brief Guide to the Standard Object Modeling Language
Martin Fowler, Addison-Wesley Pearson Education, 2004
ISBN: 0-321-19368-7

Suggested Text - Design Patterns Elements of Reusable Object-Oriented Software, Gamma et al, ISBN 0-201-63361-2

Classroom Protocol

Once the class begins, let's work together to create an adequate learning environment. Please turn off your cell phones (or put on vibrate) before class. We will be using laptops in class. You should not be on Facebook, Twitter, email, etc. Only software engineering work should be open.

Assignments and Grading Policy

Readings from the textbook and labs are assigned weekly. Team projects will be assigned throughout the term. If an assignment is not turned in on time, 10% will be taken off each day late (not including weekend days or holidays). Assignments will not be accepted after a week late. Grades are assigned as follows: A 94-100, A- 90-93, B+ 87-89, B 83-86, B- 80-82 , C+ 77-79, C 73-77, C- 70-72 , D+ 67-69, D 60-66 , F <60.

There will be one mid-term exam and a final. If a student must miss an exam, the instructor must be told in advance and arrangements must be made to take the exam as soon as possible. If you miss a class or lab, you are responsible for getting the material covered from a fellow classmate and turning in the lab before the one-week deadline.

Backup your work frequently! Computer failure or data loss will not excuse you from doing the assignments.

Team Project Assignments:	45%
Weekly Class Labs	25%
Participation/Presentation	10%
Midterm Exam:	10%
Final Examination:	10%

Since this is a project related course, if you miss a class, your team suffers. Therefore you are expected to attend each class. Everyone starts out with 100% for participation. You are allowed two absences without penalty. Five points are taken from your participation grade for each absence after the allowed absences. Each student will also give one presentation on a related topic during the term. Volunteering to present on a subject is also encouraged in this class and will improve your participation grade. The more public speaking you do, the easier it becomes.

Disability Accommodations and Opportunities

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please be in touch with Disability Services for Students Office at 330 Memorial Union, 401-874-2098.

ACADEMIC HONESTY

This is not your first computer science course so you are familiar with URI's Academic Honesty policy and how it applies to software and documentation. Although helping each other and discussing assignments is allowed and part of the learning process, homework solutions must be worked out independently unless stated otherwise (group projects). Programming is both an art and a science. No two programmers code the same. It is very obvious when students have programmed together.

Please understand that programming is often 98% failure and 2% success. The trial and error process is important and it is how you learn to code. Think about learning to speak a foreign language or learning to play an instrument. You cannot fake a music recital or a conversation in Spanish. Similarly, it is impossible to learn to code without giving yourself enough time to practice.

Also, the web provides an amazing set of resources that includes many programs already written. Don't waste your time trying to Google answers. Using any code found on the web is not allowed in this course. Coming up with your own solutions to problems is the course.

It cannot be stressed enough that all submitted work must be your own. If you turn in an assignment with code from a web site or from another student, you will be charged with plagiarism and will receive an F for the assignment. In some cases, this may result in a failure of the course as well. In addition, the charge of academic dishonesty will go on your record in the Office of Student Life. If you have any doubt about what constitutes plagiarism, visit the URI Student Handbook, and UNIVERSITY MANUAL sections on Plagiarism and Cheating.

Course Schedule

Tentative Course Schedule (dates are subject to change)

Week	Date	Topics, Readings, Assignments, Due Dates, Deadlines
1	Sept 3-5	Chapter 1 – Introduction Chapter 2 – Software Processes **Team Assignment and Project Introduction**
2	Sept 8-12	Chapter 3 – Agile Software Development Chapter 4 – Requirements Engineering
3	Sept 15-19	Chapter 5 –System Modeling Chapters 6-7 – Architectural Design UML Book – Introduction to UML
4	Sept 22-26	Chapter 8 – Software Testing Chapter 9 – Software Evolution **Sept 26 - Functional Requirements Document and Baseline Project Plan** Due
5	Sept 29 – Oct 3	Chapter 22 – Project Management Chapter 23 – Project Planning
6	Oct 6-10	Chapter 12, 14, 15 – Security requirements
7	Oct 13-17	Chapter 13 – Dependability engineering October 13th Columbus Day - No Lab **October 17th - Systems Design Document Due**
8	Oct 20-24	Chapter 16 – Software Reuse Chapter 17 – Component-based software engineering **Mid-Term Exam**
9	Oct 27-31	Chapter 24 – Quality Management Chapter 25 -Configuration Management
10	Nov 3-7	Chapter 26 – Process Improvement **Nov 7th - System Test Plan Due**
11	Nov 10 -14	Chapter 20 – Embedded software Veteran's Day Tuesday, No Class – Nov 11th – class meets on Wednesday
12	Nov 17-21	Chapter 21 – Aspect-oriented engineering

Week	Date	Topics, Readings, Assignments, Due Dates, Deadlines
13	Nov 24-26	Chapter 18 – Distributed software engineering Chapter 19 – service-oriented architecture
14	Dec 1-5	Wrap up and **Project Presentations**
15	Dec 8	Wrap up and **Project Presentations continued**
Final Exam	Thursday, Dec 11th	3pm – 6pm Emphasis on half of the course but exam is cumulative.

ACADEMIC ENHANCEMENT CENTER

The work in this course is complex and intensive. To do the best you can, it's a good idea to visit the Academic Enhancement Center (AEC) in Roosevelt Hall. The AEC offers a comfortable environment in which to study alone or together, with or without a tutor. AEC tutors can answer questions, clarify concepts, check understanding, and help you to study. You can make an appointment or walk during office hours -- Monday through Thursday from 9 am. to 9 pm, Friday from 9 am to 1 pm, and Sunday from 4 pm. to 8 pm. For a complete schedule For a complete schedule - including when tutors are available specifically for this class - go to http://www.uri.edu/aec"www.uri.edu/aec, call (401) 874-2367, or stop by the fourth floor in Roosevelt Hall.

The WRITING CENTER

The Writing Center is for "all writers, all disciplines, at all levels, and all stages of writing." If an instructor suggests that you go to the Writing Center, it is not a punishment, and does mean that you are a terrible writer. It means the instructor wants you to receive more individualized attention to your writing than s/he is able to provide, given the constraints of the class. It will only improve your grade. If possible, call ahead for an appointment (874-4690). Drop-in tutorials are often available. You may make repeat appointments, requesting the same tutor each time if you wish. See their Web Page: http://www.uri.edu/artsci/writing/center/index.shtml for tips on how to make the best of your Writing Center visit.

STANDARDS OF BEHAVIOR

Students are responsible for being familiar with and adhering to the published "Community Standards of Behavior: University Policies and Regulations" which can be accessed in the University Student Handbook. If you must come in late, please do not disrupt the class. Please turn off all cell phones, pagers, or any electronic devices.

RELIGIOUS HOLIDAYS

It is the policy of the University of Rhode Island to accord students, on an individual basis, the opportunity to observe their traditional religious holidays. Students desiring to observe a holiday of special importance must provide written notification to each instructor.