CSCI 4230: Software Engineering II
Spring 2016

Instructor	Dr. Mark Hills
Class meeting	Tuesday, Thursday: 2:00pm – 3:15pm, Austin 302
Textbooks	(**Optional**) ***Software Engineering (10th Edition),*** by Ian Sommerville, Addison Wesley, 2015, ISBN-10: 0-13-394303-8; information about other resources will be posted during the course of the semester.
Office	Science & Technology Building, Room C-110
Office hours	Tuesday: 3:30pm – 4:30pm Wednesday: 1:00pm – 4:00pm Thursday: 3:30pm – 4:30pm or by appointment
Phone	252-328-9692
Email	hillsma@ecu.edu
Course web page	Blackboard: https://blackboard.ecu.edu

Course Description and Objectives

This course provides practical training in software development using software engineering tools and principles. Students will practice using software development processes, methodologies, and commonly-used tools covering the complete life cycle of software development through building a fairly complex software system. Students are required to complete a team project, an individual project, and other assignments during the course of the semester.

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

- Develop enterprise software systems using state-of-art development techniques and tools
- Evaluate and choose processes for development of enterprise software systems
- Plan and manage realistic software development projects
- Analyze, design, and implement enterprise software systems using object-oriented methods
- Design a test plan, develop test cases and perform tests for enterprise software systems
- Document software systems

The following applications (among others) may be used in this course:

- IBM/Rational Software (Rational Software Architect, Rational DOORS)
- Microsoft Visual Studio (C# and .NET), Eclipse (Java and J2EE), or JetBrains tools (e.g., IntelliJ for Java, PphStorm for PHP, RubyMine for Ruby)
- Microsoft Project (Gantt Charts)
- JUnit, NUnit, PHPUnit, or other xUnit tools (Unit Testing)
- Git and GitHub (Source Control, Issue Tracking)
- Travis-CI (Continuous Integration)

Topics
This is a project-based course, so lectures will only be given based on need. Topics covered in this course, either in lecture, paper discussions, or project work, include:

- Software development processes and life cycles
- Planning and managing the project
- Project control
- Requirements engineering
- Object-oriented analysis and design
- Software implementation
- Software testing
- Software delivery
- Software security
- Service-oriented architecture (SOA)

Grading
Students will be evaluated based on a combination of class activities. The final grade will be assessed with the following criteria:

Assessment	Points
Team Project	40 points
Project progress presentations, special topic presentations, paper reviews, and participation	20 points
Individual Project	40 points

Grades will be assigned based on the following grading scale:

Grading	
A	≥ 94
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	below 60

The final team project presentations are scheduled from 2:00pm – 4:30pm, April 28th, 2016.

Assignments

- **Team Project** (each group will consist of roughly 8 students)
  The project tasks include:
  1. Project management, develop a project schedule and plan, and monitor progress. (4 points)
  2. Version control, develop a version control strategy. (2 points)

3. Define system requirements (4 points)
4. Create design models using UML. (10 points)
5. Implement the system (the choice of language is up to the project team). (10 points)
6. Develop test cases for unit test and system test, and document the test results. (5 points)
7. Document and present the project. (5 points)

- **Individual Project**
  The project tasks include:
  1. Define the system requirements. (5 points)
  2. Create design models using UML. (10 points)
  3. Implement the system (the choice of language is up to you). (15 points)
  4. Develop test cases for unit test and system test, and document the test results. (5 points)
  5. Document and present the project. (5 points)

Attendance Policy
You are expected to attend class. You are responsible for announcements and assignments given in class. If you miss a class, it is up to you to obtain notes and any other information that was provided in the class. Excuses that you did not know about something because you did not come to class and did not obtain the information will not be accepted. If you are having trouble understanding the lectures or are encountering problems with your projects come to office hours or ask for help. Get help as early as possible.

Starfish
This course uses the Starfish system to provide you with information on your performance within the course. For more information, please see **http://www.ecu.edu/cs-acad/advising/upload/Starfish-Student-Getting-Started.pdf**.

Student Conduct
Smoking is not permitted in classrooms. Please turn off mobile phones while in class. Laptops and tablets can be used for taking notes, but should not be used for other work (or recreational browsing, playing games, etc).

Students are expected to abide by the university's Student Honor Code. The coursework that you do is a critical part of your education. Each student is expected to do his or her own work (except for the group project, of course, where you are expected to work with the other members of your team). That does not mean you are not allowed to discuss your ideas with other students. Working in groups can be beneficial, and I encourage you to talk through ideas with other students. But outright copying is plagiarism, and is unacceptable. Students who copy other students' work, or who allow their work to be copied, or who copy their work from other sources, such as the Internet, will receive no credit.

Other potential academic integrity violations are cheating, falsification, multiple submissions of the same work in different classes, and attempts at any of these violations. Please see **http://www.ecu.edu/cs-studentlife/policyhub/academic_integrity.cfm** for more details, and ask me when in doubt about whether something is okay.

Academic integrity violations can result in a grade penalty up to and including an F for the course.

Incompletes
No incompletes will be issued in this course except for extraordinary circumstances, and even then only if you are nearly done already, and have done work of acceptable quality, so that it is realistic that you can pass the course.

Weather Emergencies
In the event of a weather emergency, information about ECU can be obtained through the following sources:

ECU emergency notices http://www.ecu.edu/alert
ECU emergency information hotline 252-328-0062

Students with Disabilities
East Carolina University seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must be registered with the Department for Disability Support Services located in Slay 138 ((252) 737-1016 (Voice/TTY)).

For more information, please see http://www.ecu.edu/cs-studentlife/dss/.

Retention Requirements
Academic requirements for retention have changed. Please be aware of the following new GPA requirements. Please discuss the retention requirements, entrance to major requirements, and your goals with your academic advisor.

GPA Hours at ECU (identified in Transcript in Banner Self Service) plus transferred credit hours	"Old" Retention Requirement All courses taken at ECU	New Retention Requirements Effective with Fall 2011 grades All courses taken at ECU
1-29 semester hours	1.6 GPA	1.8
30-59 semester hours	1.8 GPA	1.9
60-74 semester hours	1.9 GPA	2.0
75 or more semester hours	2.0 GPA	2.0

Caveats
Occasionally, it may be necessary to revise this syllabus due to extenuating circumstances. I reserve the right to revise this syllabus if the need arises. If I do so, I will provide you with advance notice.