



COURSE SYLLABUS

CEN 4010
Software Engineering

Fall Semester 2006

COURSE PERSONNEL:

Lead Instructor: Dr. Jean Muhammad

Office: LOV 171

Phone: 644-6212

Email: Muhammad@cs.fsu.edu

Office Hours: TR 9:15am - 11:00am in LOV or by appointment

PREREQUISITE:

COP 3331 – Object Oriented Analysis and Design

COURSE MATERIALS:

Required text:

- Somerville, Ian (2001) Addison-Wesley *Software Engineering 7th Edition*. Massachusetts: Addison Wesley
ISBN 0-321-21026-3

ON-LINE RESOURCES:

The following are useful on-line references:

- o [GNU ftp site](#)
- o [GNU web site](#)
- o [GNU Emacs Manual](#)
- o [Emacs Reference Card](#)
- o [Emacs Command Tutorial](#)
- o [An Emacs Primer](#)
- o [DJGPP - DOS GNU Unix](#)
- o [Barebones Guide to HTML](#)
- o [Ghostscript Home Page](#)
- o [Ghostscript Download Site](#)
- o [Adobe Acrobat Download Site](#)
- o [FSU User Services Site Licenses](#)

COURSE DESCRIPTION:

In previous courses in computer science you were taught how to write code given a specific design and set of specifications. In this course, you will learn to develop those designs and specifications and the formal methods used.

The course will cover chapters 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 16, 17, 22, 23, 25 and 26. However the student is encouraged to read all of the chapters. Time does not permit us to cover all topics in this book in just one semester. It is particularly important that the student place a great deal of emphasis in understanding the different design models and the sections covering requirements analysis and system specification. As it turns out, developing a complete set of requirements and specifications is one of the more difficult and critical tasks in software engineering.

The topics mentioned in the title of the course are *Software Engineering, Software Processes, Project Management, Software Requirements, Prototyping, Specifications, OOD, Verification and Validation, Testing, Management of People, Cost Estimation, Legacy Systems, Reengineering, Formal Specifications, User Interfaces, Distributed Systems, and Requirements Management.*

During the course of this term the students will be involved with a real problem solving/software development situation. Students will be required to gather functional requirements, identify the problem, form a solution and present this solution to a prospective customer. There will be two different projects in which the students will participate. (1) Department of Computer Science Class Roster System and (2) Computation Sciences MorphBank Database System.

COURSE OBJECTIVES:

At the end of this course, the student should be able to:

- Demonstrate the procedure of converting a valid software design into efficient code
- State the central themes involved in The Software Crisis
- Apply the concepts of Software Process and Model
- State the requirements for efficient Project Management
- Execute the needed steps in Software Design: Requirements, Specification, Architectural Design, and OOD
- State the steps involved in Program Verification and Validation
- Execute a thorough Software Test
- Apply the procedures for Software Quality Assurance and Cost Estimation
- State the steps involved in Software Process Improvement
- Identify issues involved with Legacy Systems, Re-engineering, and Configuration Management

ON-CAMPUS STUDENTS:

<i>Activity</i>	<i>Day</i>	<i>Time</i>	<i>Location</i>
Lecture	Monday-Wednesday – Friday	12:20pm – 1:10 pm	LOV 301

COURSE SCHEDULE:

<i>Week</i>	<i>Topic</i>	<i>Reading Assignment</i>	<i>Homework/ Assignment</i>
1	Introduction to Software Engineering	Chapter 1,2	Reading Only
2	Critical Systems	Chapter 3	2.5, 2.11, 3.11
3	Software Processes	Chapter 4	
4	Project Management	Chapter 5	4.3, 4.12, 5.3, 5.12
5	Software Requirements	Chapters 6	Hand out project
6	Requirements Engineering	Chapter 7	Test 1
7	System Models	Chapter 8	Pick Group Teams
8	Formal Specifications	Chapter 10	6.3, 7.5, 8.2, 10.6
9	Distributed Systems	Chapters 12	Project Status
10	Application Architecture	Chapter 13	12.1, 12.2
11	Object Oriented Design	Chapter 14	
12	User Interface Design	Chapter 16	Test 2
13	Rapid Software Development	Chapter 17	Project Status
14	Verification and Validation/Testing	Chapter 22/23	
15	Managing People	Chapter 25	Projects Due, Final Report
16	Final Exam		

PROJECT RELEASE PROCESS:

Projects are assigned at the beginning of the term. You will be graded on your individual work. Even though these projects will be combined into a single piece of work it is important that you not rely on others to bring your grade up in an overall project. You each will be assigned a specific task to perform and will be graded on the quality of that task.

COURSE POLICIES:**Attendance Policy:**

The university requires attendance in all classes. Attendance in this class shall mean:

- Attending lectures at their regular scheduled times
- Regularly participating in class discussions
- Taking Exams at the scheduled time and place
- Submitting assignments correctly and on deadline

Exam Makeup Policy:

An exam missed without an acceptable excuse will be recorded as a grade of zero (0).

Missed exams with acceptable excuse will be made up or assigned the average grade of all other exams, at the option of the course instructor.

Missed, and acceptably excused, final exams will result in the course grade of 'I' and must be made up in the first two weeks of the following semester.

Unexcused Late Assignment Policy:

- An assignment that is turned in no more than 24 hours late will be scored with a 10% penalty.
- An assignment that is turned in no more than 48 hours late will be scored with a 20% penalty.
- An assignment that is turned in more than 48 hours late will receive the score of zero (0). However, all assignments must be turned in to obtain full credit for the course.

Grade of 'I' Policy:

The grade of 'I' is given to a student who, for circumstances beyond their control, missed the opportunity to cover course materials. Under the conditions stated by the University, the grade of 'I' means that a student is allowed the next semester of their enrollment to make up all remaining course materials. It does not allow a student the opportunity to hand in additional work or improve their grade on previous assignments. The grade of 'I' will be assigned only under the following exceptional circumstances:

- The final exam is missed with an accepted excuse for the absence. In this case, the final exam must be made up during the first two weeks of the following semester.
- Due to an extended illness or other extraordinary circumstance, with appropriate documentation, the student is unable to participate in class for an extended period. In this case, arrangements must be made to make up the missed portion of the course prior to the end of the next semester.

GRADING/EVALUATION:

The overall grade for CEN 4010 is a calculation of the percentage of points from attendance, homework, exams, and group project.

Homework, tests, projects, and attendance will be normalized to the point values listed below. The group project will have both a project grade and individual grade based upon the quality and participation of each student in the project.

There are 800 total points that may be earned in the course distributed as shown in Table 1. The final grade is determined using Table 2.

TABLE 1: Point Values

<i>Item</i>	<i>Points/Item</i>
2 In-term Exams	200
Final Exam	200
Attendance	100
Homework	100
Final Project	200
TOTAL	800

Table 2: Letter Grades

<i>% of Total Points</i>	<i>Grade</i>
96% - 100%	A
90% - 95%	A-
86% - 89%	B+
80% - 85%	B
76% - 79%	B-
70% - 75%	C+
66% - 69%	C
61% - 65%	C-
55% - 60%	D
<55%	F

ACADEMIC HONOR CODE:

Students are expected to uphold the Academic Honor Code published in The Florida State University Bulletin and the Student Handbook. The Academic Honor System of The Florida State University is based on the premise that each student has the responsibility (1) to uphold the highest standards of academic integrity in the student's own work, (2) to refuse to tolerate violations of academic integrity in the university community, and (3) to foster a high sense of integrity and social responsibility on the part of the university community.

Please see the following web site for a complete explanation of the Academic Honor Code.

<http://www.fsu.edu/Books/Student-Handbook/codes/honor.html>

<http://www.fsu.edu/Books/Student-Handbook/>

In particular, note that students may not give or receive help of any kind on programming projects. This means, among other things, that students are not permitted to read each others code (on paper OR on screen) or discuss design or implementation of programming projects with anyone other than the instructional personnel. Violations of this policy will result in the grade of zero for all parties involved.

AMERICANS WITH DISABILITIES ACT:

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

For more information about services available to FSU students with disabilities, contact:

Student Disability Resource Center

97 Woodward Avenue, South

Florida State University

Tallahassee, FL 32306-4167

(850) 644-9566 (voice)

(850) 644-8504 (TDD)

sdrc@admin.fsu.edu

Mail code: 4167

<http://www.fsu.edu/~staffair/dean/StudentDisability/>

SYLLABUS CHANGE POLICY:

This syllabus is a guide for the course and is subject to change with advanced notice. Such notice will be in the form of an announcement to the Blackboard course web site.
