

Fayetteville State University
College of Basic and Applied Sciences
Dr. Henry Eldridge Department of Mathematics and Computer Science
CSC470 -01 Software Engineering
Fall 2011

I. Locator Information:

Instructor: Dr. Mingxian Jin Email address: mjin@uncfsu.edu
Course # and Section: CSC470 01 Office Location: SBE 336
Semester Credit Hours: 3
Office hours: T R 8:00am-9:30am & 11:00am -12:30pm M 9:00 am -11:00 am; or by appointment
Day and Time Class Meets: T R 9:30 am -10:45 am Office Phone: (910) 672-1558
Final Exam: 8:00 am - 9:50 am, Thursday December 8, 2011

FSU Policy on Electronic Mail: Fayetteville State University provides to each student, free of charge, an electronic mail account (username@broncos.uncfsu.edu) that is easily accessible via the Internet. The university has established FSU email as the primary mode of correspondence between university officials and enrolled students. Inquiries and requests from students pertaining to academic records, grades, bills, financial aid, and other matters of a confidential nature must be submitted via FSU email. Inquiries or requests from personal email accounts are not assured a response. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail. Rules and regulations governing the use of FSU email may be found at <http://www.uncfsu.edu/policy/general/FSUE-mailFINAL.pdf>

II. Course Description: This course introduces students to an intensive study on the theoretical foundations of developing and maintaining large software, project design, object-oriented development and testing techniques in an attempt to manage the complexity of large software projects. Topics include the scope of software engineering, software life-cycle models, software process, team organizations, tools, and testing techniques. It also covers analysis, design and implementation on individual workflows for real problem case studies. A team project will be included as a component of this course.

III. Disabled Student Services: In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ACA) of 1990, if you have a disability or think you have a disability to please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910-672-1203.

IV. Course Materials:

1. Textbook : Stephen R. Schach, *Object-Oriented and Classical Software Engineering*, 8th Ed., McGraw-Hill, 2010, ISBN 0-07-337618-3 or ISBN 978-0-07-337618-9
2. Access to a computer and the Internet (high-speed preferred).
3. Knowledge of CE6: If you are using Blackboard for the first time, I would recommend that you review the tutorials at [Online Blackboard Help](#).
4. Microsoft Word
5. Microsoft Visio 2010 is available for FSU students to download. Please go to the link <http://faculty.uncfsu.edu/achan/msdnaa/> for more detail

V. Student Learning Outcomes

Upon completion of this course,

- Students will be able to understand the concepts and relationship of software development vs. maintenance
- Students will be able to understand the classical paradigm and object-oriented paradigm of software engineering
- Students will be able to demonstrate a clear understanding of the components of the software process, which include requirements, specifications, design, implementation, maintenance, and retirement
- Students will be able to understand the concepts of iteration and incrementation in software development
- Students will gain knowledge of various software life-cycle models and be able to apply it to real-world cases

- Students will be able to demonstrate effective uses of the analytical and practical tools including stepwise refinement, cost-benefit analysis, software metrics, computer-aided software engineering (CASE), and UML
- Students will be able to understand the importance of team work in software development and be able to effectively play a role in a team-work environment
- Students will be able to understand testing techniques in software development
- Students will demonstrate effective written communication skills through the development of software specifications and other coursework documents that require clarity, correctness, and completeness.
- Students will be able to apply the foundational knowledge and to analyze & design software systems for real-world cases

VI. Core Abilities

Through a combination of tests, assignments, team projects, and discussion, students will demonstrate competences in understanding of the following aspects:

- The theoretical foundations for software engineering, e.g. the object-oriented paradigm, software life-cycle models
- The workflows and phases of the unified process in software development
- Different team organizations
- Useful tools such as stepwise refinement, cost-benefit analysis, software metrics and CASE, UML in software engineering
- Effective testing techniques and methods for large software products
- Applying the above knowledge and other the effective tools in real world case studies in software engineering

VII. Course Topics

This course covers the following chapters.

Chapter 1 The Scope of Software Engineering
 Chapter 2 Software Life-Cycle Models
 Chapter 3 The Software Process
 Chapter 4 Teams
 Chapter 5 The Tools of Trade
 Chapter 6 Testing
 Chapter 7 From Modules to Objects
 Chapter 11 Requirements
 Chapter 13 Object-Oriented Analysis
 Chapter 14 Design
 Chapter 17 More on UML
 Projects: Team-work

FSU Policy on Disruptive Behavior in the Classroom (Optional)

The *Code of the University of North Carolina* (of which FSU is a constituent institution) and the *FSU Code of Student Conduct* affirm that all students have the right to receive instruction without interference from other students who disrupt classes.

FSU Core Curriculum Learning Outcome under Ethics and Civic Engagement (6.03): All students will “prepare themselves for responsible citizenship by fulfilling roles and responsibilities associated with membership in various organizations.” Each classroom is a mini-community. Students learn and demonstrate responsible citizenship by abiding by the rules of classroom behavior and respecting the rights all members of the class.

The FSU Policy on Disruptive Behavior (see FSU website for complete policy) identifies the following behaviors as disruptive:

1. Failure to respect the rights of other students to express their viewpoints by behaviors such as repeatedly interrupting others while they speak, using profanity and/or disrespectful names or labels for others, ridiculing others for their viewpoints, and other similar behaviors;
2. Excessive talking to other students while the faculty member or other students are presenting information or expressing their viewpoints.
3. Use of cell phones and other electronic devices
4. Overt inattentiveness (sleeping, reading newspapers)
5. Eating in class (except as permitted by the faculty member)
6. Threats or statements that jeopardize the safety of the student and others
7. Failure to follow reasonable requests of faculty members
8. Entering class late or leaving class early on regular basis
9. Others as specified by the instructor.

The instructor may take the following actions in response to disruptive behavior. Students should recognize that refusing to comply with reasonable requests from the faculty member is another incidence of disruptive behavior.

1. Direct student to cease disruptive behavior.
2. Direct student to change seating locations.
3. Require student to have individual conference with faculty member. At his meeting the faculty member will explain the consequences of continued disruptive behavior.
4. Dismiss class for the remainder of the period. (Must be reported to department chair.)
5. Lower the student’s final exam by a maximum of one-letter grade.
6. File a complaint with the Dean of Students for more severe disciplinary action.

Students who believe the faculty member has unfairly applied the policy to them may make an appeal with the faculty member’s department chair.

VIII. Course Requirements and Evaluation Criteria

All work is done on a point basis. Do your best and earn your grade. Set a goal for an “A”, then do the work required to achieve it! Your grade reports are available on Blackboard.

There will be two in-term tests and a final test. They totally count 30% toward your final grade. Homework assignments are given at the end of each chapter. They must be submitted electronically no later than the midnight of the due date and are counted toward your final grade. Any late homework submission is subject to late penalty up to 10% off per calendar day. A number of exercises will be available at the end of each chapter for your self-assessment purpose. Although they are not counted in your final grade, you are strongly encouraged to work on them, as they help you review the content of the chapter and prepare for the test. A team project will be assigned in the first half of the semester that will be part of your final grade. In addition to progress reports, at the end of the semester, each team will be required to submit a final project report and to

give a presentation to demonstrate your project in class. Detail for projects will be announced soon. The grading scale will be as follows:

Three Tests	30%
Assignments	35%
Project	30%
Participation and Attendance	5%

The grading scale is based on the *Undergraduate Catalog* and is as follows:

A	91%—100%
B	81%—90%
C	71%—80%
D	61%—70%
F	0%—60%

IX. Student Responsibilities

- **You are responsible for your own learning.**

How much you get out of school and any class is within your own control more than anyone else, including your instructors. Do you attend and do you participate fully? Do you read the assigned readings and come prepared to class? Lectures are meant to clarify the readings and are not a substitute for reading the text. Do you give 100% to your education...or less?

- **You are responsible for handing in assignments on time.**

No assignments are accepted beyond a week of the due date. If you have extenuating circumstances, it is essential that you talk to the instructor.

- **You are responsible for being mature.**

Being responsible means being accountable for your actions. The true sign of a mature and moral individual is when you believe you are accountable for your decisions and behavior. Part of this is following online class rules and holding up your end of any teamwork responsibilities.

X. Instructor Responsibilities

- **Knowing and keeping up on the subject area.**

The instructor must get six credits every five years of education in his/her field to keep accreditation. The instructor will attend conferences (as able) in the field, read current magazines and books, and look through new textbooks. The instructor will also try to keep up with current business philosophy and technology.

- **Updating curriculum.**

As changes happen in business management, the instructor will attempt to put new competencies in the curriculum.

- **Being fair in both the grading system and treatment of students.**

Every student will have an equal opportunity to achieve good grades. Students will all receive the same opportunity to learn and be successful.

XI. Student Right Information

- **Accommodations for Students with Disabilities**

Reasonable accommodations and auxiliary aids will be available for students with documented disabilities, in accordance with the Americans with Disabilities Act standards.

- **Accommodations for Religious Beliefs**

In compliance with Wisconsin law, students with sincerely held religious beliefs can request a reasonable accommodation with regard to scheduling an examination and other academic requirements. The student request must be in writing and submitted to the instructor five working days prior to the date or dates of the anticipated absence. The student request will be kept confidential. Instructors will provide a means by which a student can perform the make-up examination or other academic requirement in a timely manner without any prejudicial effect.

- **Discrimination/Harassment**

Discrimination/harassment is prohibited when it is based on race, color, national origin, ancestry, religion, creed, sex, disability, age, arrest or conviction record, marital status, parental status, veteran’s status, pregnancy, or sexual orientation. Discrimination means any action, policy or practice detrimental to a member of one of the above protected groups or that limits or denies opportunities to a person or group. Sexual harassment is also prohibited and is defined as severe, pervasive behavior that substantially interferes with one’s work or academic performance, or creates an intimidating, hostile or offensive academic environment.

XII. Course Weekly Schedule

(This schedule is subject to change for the optimum benefit of the class as a whole.)

Week of	Activity/Key date	Project
August 15	August 18: First day of classes Chapter 1;	
August 24	Chapter 2; August 24: drop/add ends	
August 31	Chapter 2, 3;	
September 5	Chapters 3 September 5: Labor Day Holiday	
September 12	Test 1 Chapter 4;	
September 19	Chapter 5;	Team formed
September 26	Chapter 7;	
October 3	Chapters 16; October 7: deadline for interim grades	
October 10	Test 2; Chapter 11;	Requirement report due
October 17	October 17 & 18: Fall break Chapter 11;	
October 24	Chapter 6; October 28: Last day to withdraw from classes October 28: Last day to clear ‘I’ grades	Analysis report due
October 31	Chapter 13;	
November 7	Chapter 13; November 11: Veteran’s Day	Design report due
November 14	Chapter 14; November 16: Last day to withdraw from FSU	
November 21	Chapter 14; November 24 & 25: Thanksgiving Holidays	Project final report due
November 28	Final Review Graduating Senior Final exam	Project presentation
December 5	Final exam: 8:00 am - 9:50 am, Thursday, December 8 December 10: Commencement	