COURSE NUMBER: CSC640
COURSE TITLE: SOFTWARE ENGINEERING
CREDITS: 3

PREREQUISITES: Graduate status in Computer Science and satisfaction of all provisional admission requirements for CSC130/230/330 and English proficiency. This course requires the student to have good object-oriented programming skills and English language proficiency. (The student is expected to learn on his own any computer skills needed to implement the course project in an object-oriented programming language.)

INSTRUCTOR: Dr. Nancy Green; office: 159 Petty Hall; phone: 256-1133; office hours: posted beside office door and by appointment; email: nlgreen@uncg.edu.

DESCRIPTION: This is a graduate-level introduction to software engineering, which is the engineering discipline concerned with finding and applying solutions to problems encountered in delivering high quality, large-scale, real-world software systems in a timely and cost-effective manner. The overall goal is for the student to learn basic principles and techniques that can be applied to his or her career as a software engineer, or that can be the foundation for further graduate study.

STUDENT LEARNING OUTCOMES: Upon completion of the course students should be able to
1. Demonstrate knowledge of principles and terminology of the field of Software Engineering
2. Demonstrate knowledge of object-oriented modeling techniques (UML)
3. Apply knowledge outlined above in 1-2 to the requirements, analysis, design, implementation, and evaluation of a software system in a course project; and present project deliverables in written and oral form
4. Understand, summarize and evaluate peer-reviewed articles on theory and practice of Software Engineering; and communicate this information in written and/or oral form.

GRADING: Students are expected to attend all classes, to participate in class activities, and to read assigned readings. Students will be assigned a course project involving programming in an object-oriented language (Java), written deliverables, and in-class presentations. The course grade will be based on
• Test 1 (25%)
• Test 2 (25%)
• Project (several parts, totaling 40% of the course grade)
• Reports on software-engineering articles (10%)

POLICIES:
• Attendance: is required. You may be dropped from the course for missing more than 6 classes for any reason including illness, job issues, excused absences, etc. (The university has a policy of excusing 2 absences for religious observances.) If you are absent, whether it is excused or not, you still need to follow the policies on Due Dates and Missed Exams below.
• Emergency university closure: Closure of university facilities and classrooms in response to emergencies (flu outbreak, bad weather, etc.) does not mean that this class
is halted, and students should check Blackboard for announcements about how the class will proceed in the event of such an emergency.

- Disruptive Behavior: If you engage in non-course-related or disruptive activities (such as reading email, arriving late or leaving early, sending text messages, doing work for another class) you may be asked to leave the room and counted as absent; persistent behavior of this type may result in your being dropped from the course (see the UNCG Disruptive Behavior Policy).

- Textbook: It is your responsibility to have access to the required textbook.

- Due dates: Late work will not normally be accepted. Make arrangements with the instructor to turn in work early if you will not be in class on the due date.

- Missed exams: may be taken only if the student's absence has been excused by the instructor and if the exam is made up at the make-up exam time announced by the instructor.

- Academic Integrity: All work (including assignments and tests) is subject to the UNCG Academic Integrity Policy. When you submit your work and exams, you are implicitly agreeing to this policy. Academic dishonesty is not acceptable and is subject to official sanctions. (For group assignments, each student’s individual contribution should be identified.)

- Disabilities: If you have disability-related requirements, please inform us as soon as possible so that we can make any necessary accommodations.

- Commercial services: Selling class notes and other class materials for commercial gain is a violation of the University’s Copyright Policy and of the Student Code of Conduct. Sharing notes for studying purposes, or borrowing notes to make up for absences, without commercial gain, are not violations.


BLACKBOARD: Assignments, readings, lecture notes, calendar updates, etc. will be posted on Blackboard. It is the student’s responsibility to periodically check there.

TOPICS (chapters refer to textbook – lecture notes and other readings will be posted on Blackboard):

- Introduction (ch. 1)
- Review of Object-Oriented Programming/Java (ch. 2)
- Software Development Teamwork and Ethics
- Requirements (ch. 4)
- Class Modeling (ch. 5)
- Users (ch. 7)
- Interaction Modeling (ch. 8)
- Design (ch. 9)
- Testing (ch. 10)
- Managing software projects (ch.11)