

Fall 2017 – Course Syllabus

COURSE NUMBER: CSC340

COURSE TITLE: SOFTWARE ENGINEERING

CREDITS: 3

PREREQUISITES: Grade of C or better in CSC130, CSC230, and CSC330. The student is expected to have good object-oriented programming language skills in C++ or Java and be able to learn on his own any new computer skills needed to implement the course project in Java.

INSTRUCTOR INFORMATION: Dr. Nancy Green; office: 159 Petty Building; phone: (336) 256-1133; office hours: 2:00-3:00 Tu/Th and by appointment; email: nlgreen@uncg.edu.

CATALOG DESCRIPTION: Practical and theoretical concepts of software engineering.

DESCRIPTION: This is an introduction to software engineering, 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. This is a WRITING INTENSIVE course.

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 in 1-2 to the requirements, analysis, design, implementation, and testing of a software system in a team project; and present project deliverables in written form.
4. Demonstrate knowledge of software teams and software engineering ethics.
5. Demonstrate knowledge of software evaluation.

GRADING: Students are expected to attend class, to participate in class activities, and to read assigned readings. Students will be assigned a course project involving programming, written deliverables, and in-class presentations. The course grade will be based on

- Test 1(20%), Test 2 (20%), Test 3 (10%)
- Project (40% total): Requirements (written) 10%, Analysis/Design (written) 10%, First Implementation (10%), Final Implementation (10%)
- In-class participation (10%)

POLICIES:

- **Attendance:** is expected and will be checked. The in-class participation grade is based upon your participation in in-class exercises and in-class team meetings. Also, if you miss more than 6 classes for any reason (including excused absences) you may be dropped from the course or assigned an F without warning. If you are absent, whether it is excused or not, you still need to follow the policies on Late Work and Missed Exams below.
- **Textbook:** It is your responsibility to have sufficient access to the required textbook. Lecture notes and slides posted on Canvas are not sufficient to complete the assignments and study for exams.

- **Disruptive Behavior:** If you engage in non-course-related or disruptive activities (such as excessive non-course-related conversation, reading/sending email or 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: <https://osrr.uncg.edu/faculty/disruptive-behavior/>)
- **Late work** will not normally be given credit. (Make arrangements with the instructor to turn work in early if you know you will be absent on a due date.)
- **Missed exams** cannot be made up without permission of the instructor at a time to be determined by the instructor.
- **Academic Integrity:** All work (including assignments and tests) is subject to the UNCG Academic Integrity policy: <https://osrr.uncg.edu/academic-integrity/>
- When you submit your work and exams, you are implicitly agreeing to this policy. Academic dishonesty includes submitting for credit any software that you (or your team, in case of a team project) did not write yourself/yourselves.
- **Disabilities:** If you have disability-related requirements, please inform us as soon as possible.
- **Copies of student work** (with student's identifying information removed) may be kept and used for curriculum assessment and in accreditation studies.
- **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.
- **Emergency university closure:** Closure of university facilities in response to emergencies (flu outbreak, bad weather, etc.) does not mean that this class is halted; check Canvas for announcements about how the class will proceed in the event of such an emergency.

REQUIRED TEXTBOOK: Ian Sommerville, Software Engineering, 10th edition. Lecture slides can be downloaded from <http://iansommerville.com/software-engineering-book/>

CANVAS: Assignments, readings, lecture notes, calendar, etc. will be posted on Canvas. It is the student's responsibility to check for updates and to read the assigned readings.

TOPICS (chapters refer to textbook; see Canvas for other assigned readings on these topics):

- Introduction to Software Engineering (ch. 1),
- Ethics (ch. 1 and assigned reading)
- Teamwork (assigned reading)
- Software Project Models (ch. 2)
- Agile Methods (ch. 3)
- Requirements Engineering (ch. 4)
- User Interface Design (textbook web chapter)
- System Modeling (UML and classical) (ch. 5)
- Architecture design (ch. 6)
- Design (low-level) and implementation (ch. 7)
- Testing (ch. 8)
- Other topics as time allows: SW Quality (ch. 24), Security (ch. 13), Evolution (ch. 9), SW Project Management (ch. 22, 23)