CSC 640 SOFTWARE ENGINEERING- COURSE SYLLABUS (FALL 2021)

COURSE NUMBER: CSC640
COURSE TITLE: SOFTWARE ENGINEERING
CREDITS: 3
CLASS HOURS/LOCATION: T/Th 2:00 – 3:15 pm (Sullivan 200)
OFFICE HOURS: T/Th 3:30 pm – 4:30 pm, and by appointment (Petty 159)

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. Minjeong Kim; email: mkim@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, C++), written deliverables, and in-class presentations. The course grade will be based on

- Test 1 (15%), Test 2 (15%), Test 3 (10%)
- Project (several parts, totaling 50% of the course grade)
- Report on a software engineering article (10%)

Grading scale: A: 95-100%, A-: 90-94%, B+: 87-89%, B: 83-86%, B-: 80-82%, C+: 77-79%, C: 73-76%, C-: 70-72%, F: below 70%

TEXTBOOK: Ian Sommerville, Software Engineering, 10th Edition (2016).

CANVAS: Assignments, readings, lecture notes, calendar updates, etc. will be posted on Canvas. **It is the student's responsibility to periodically check there.**

POLICIES:

- **Attendance**: Students are required to attend all classes. Accumulated absences more than 30% of total class hours without preapproval, it may lead to failure in the course. Even if the absence has been excused, the rules on Due Dates and Missed Exams are followed.
- **Due Dates**: Late assignments will be penalized 20 percent per day (per 24 hours).
- **Missed Exams**: Make-up exams are not generally arranged unless emergency approved by the instructor. Only if the student's absence is approved, it will be scheduled by the instructor.
- **Academic Integrity**: All work including assignments and exams is subject to the UNCG Academic Integrity Policy (https://osrr.uncg.edu/academic-integrity/). By submitting their assignments and exams, students are implicitly agreeing to this policy. Academic dishonesty is not acceptable and is subject to official sanctions. That is, the incident(s) will be reported to the department and it may result in zero point to the work and even failure in the course.
- **Academic Accommodations**: If you have disability-related requirements, please contact the Office of Accessibility Resources and Services (OARS) at https://ods.uncg.edu/.
- **Health and Wellness**: Student Health Services and The Counseling Center (https://shs.uncg.edu/) can help with health and wellness issues you may be experiencing (e.g., physical ailments, illnesses, strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation).
- **Emergency University Closure**: Our course schedule follows the university's instructions in case of emergency such as bad weather.
- **Disruptive Behavior**: Upon any non-course-related or disruptive activities, the instructor may ask the student to leave the classroom and count it as absence. If such behavior is continued, it may result in dropping the student from the course based on the UNCG Disruptive Behavior Policy (https://osrr.uncg.edu/faculty/disruptive-behavior/)
- **Copyright**: The course materials including lectures are provided only for this course. Redistribution of them is not recommended. Any commercial gain by such behavior is a violation of the University's Copyright Policy and of the Student Code of Conduct.
- **COVID-19 exemptions**: If you are directly or indirectly affected by Covid-19, including positive test, symptom, or quarantine, contact instructor.

COVID-19 STATEMENT:

- **Instructor and students follow the campus-wide safety rules, including**
    - Following face-covering guidelines
    - Engaging in proper hand-washing hygiene when possible
    - Self-monitoring for symptoms of COVID-19
    - Staying home if you are ill
    - Complying with directions from health care providers or public health officials to quarantine or isolate if ill or exposed to someone who is ill.

- **Seat assignment**: Students must sit in their assigned seats at every class meeting and must not move furniture. Students should not eat or drink during class time.

- **Mask requirement**: Students who do not follow masking requirements will be asked to put on a face covering or leave the classroom to retrieve one and only return when they follow the basic requirements.
- Repeated face covering issues may result in conduct action. The course policies regarding attendance and academics remain in effect for partial or full absence from class due to lack of adherence with face covering and other requirements.
- If accommodations regarding wearing face coverings are needed, students may contact the Office of Accessibility Resources and Services (OARS) at https://ods.uncg.edu/, in consultation with Student Health Services, will review requests for accommodations.

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

- Introduction (ch. 1)
- Software Project Models (ch. 2)
- Agile Methods (ch. 3)
- Requirements (ch. 4)
- User Interface Design (textbook web chapter)
- System Modeling (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), Managing Software Projects (ch. 22, 23)