



# INFO 6255 Software Quality Control and Management FALL 2024

## Course Information

Course Title: Software Quality Control and Management

Course Number: INFO 6255

Term and Year: Spring 2025.

Credit Hour: 4

CRN: 22159

Course Format: Online Every Thursday 6:00 - 9:30 pm

## Instructor Information

Full Name: Shuang Song

Email Address: sh.song@northeastern.edu

Office Hours: By appointment. Date/Times will be posted on Teams.

## Instructor Biography

Shuang Song is an experienced software testing engineer with a comprehensive background in designing and developing test strategies and automation for high-quality application delivery. Her teaching emphasizes practical applications of software testing and encourages students to develop test programs that can be implemented in real-world scenarios.

## Course Prerequisites

INFO 5100 (may be taken concurrently) with a minimum grade of B- or CSYE 6200 (may be taken concurrently) with a minimum grade of B-

## Course Description

Examines techniques for the management and evolution of software systems. Topics include managing software as an asset; life cycle development and rapid development technologies; maintainability; quality assurance of software systems including testing strategies and problem analysis; software risk analysis; analysis of software project failures; configuration management; and the impact of new development technologies on software management.

## Course Learning Outcomes

At the end of this course, students will be able to:

- Demonstrate practical knowledge of the fundamental concepts of software testing.
- Obtain key testing skills necessary to successfully contribute to an Agile project.
- Implement unit test, UI test, API test, performance testing and database verification
- Identify OWASP Top 10 vulnerabilities in system and understand the impact and resolution.
- Leverage popular QA tools in projects

### Required Tools and Course Textbooks.

No textbook needed. Students are expected to have a developer-grade laptop with stable Internet connection. Software such as IntelliJ should be supported.

### Course Schedule/Topics Covered.

Week	Date	In Class Topic	Assignment Due
1	01/09	Foundation of Software Testing	
2	01/16	Testing through SDLC	
3	01/23	Testing through SDLC	
4	01/30	Performance Testing	
5	02/06	Performance Testing	Performance Test Assignment
6	02/13	Static Testing & Testing Techniques	
7	02/20	Test Planning and Estimation	
8	02/27	Unit Test Lab	ISTQB Foundation Level - Sample Test
9	03/06	No class during spring break	
10	03/13	Midterm	
11	03/20	API Testing	
12	03/27	Security Testing	API Testing Assignment
13	04/03	Security Testing	
14	04/10	In-class Quiz about Security Testing, Cucumber Framework for BDD	
15	04/17	UI Automation	
16	04/24	UI Automation	

### Assignment Grading

- Attendance – 10 %
  - Attendance is required for all lectures in order to participate in the in-class discussions and group activities
  - For each missed attendance without prior authorization from the lecturer, 1% will be deducted.
  - **3 or more absences results in automatic F per MGEN policy. Please carefully review the Attendance/Late Work Policy below.**

- Assignments – 60%
- Exams - 30%

### Grading Scale

	87-89.9% B+	77-79.9% C+	
95-100% A	84-86.9% B	74-76.9% C	
90-94.9% A-	80-83.9%B-	70-73.9% C-	69.9% or below F

## Attendance/Late Work Policy

### Attendance Policy

Students registered in MGEN courses (INFO, CSYE, and DAMG) are allowed **a maximum of 2 absences per course, with 3 or more absences resulting in an automatic 'F' for that course.** Students are expected to inform their instructors of any absences in advance of the class; if a student is sick long-term or experiences a medical issue that prevents class attendance, it is strongly encouraged that they speak with their Academic Advisor ([coe-mgen-gradadvising@northeastern.edu](mailto:coe-mgen-gradadvising@northeastern.edu)) to learn more about the Medical Leave of Absence. Should a student anticipate being unable to attend 3 or more classes, they should discuss their situation with their Academic Advisor to explore other types of leave in accordance with the University's academic and global entry expectations. International students should review the Office of Global Services webpage to understand their visa compliance requirements.

Teaching Assistants (TAs) or Instructional Assistants (IAs) will be present at each class to collect student attendance.

### Late Work Policy

Students must submit assignments by the deadline in the time zone noted in the syllabus. Students must communicate with the faculty prior to the deadline if they anticipate work will be submitted late. Work submitted late without prior communication with faculty will not be graded.

- Late submissions include but not limited to these scenarios
  - Forgot to share your private Github repository with the instructor's Github account before the deadline.
  - Finished the code on Github before the deadline but failed to submit the link to your repo on Canvas.
- Up to 3 days late: - 10% \* Total possible grade of that assignment
- 3-7 days late: - 30% \* Total possible grade of that assignment
- More than 7 days late: -50 % \* Total possible grade of that assignment

## End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is particularly important to the College of Engineering. Your comments will make a difference in the future planning and presentation of our curriculum.

At the end of this course, please take the time to complete the evaluation survey at <https://neu.evaluationkit.com>. Your survey responses are **completely anonymous and confidential**. For courses 6 weeks in length or shorter, surveys will be open one week prior to the end of the courses; for courses greater than 6 weeks in length, surveys will be open for two weeks. An email will be sent to your Northeastern University Mail account notifying you when surveys are available.

## Academic Integrity

A commitment to the principles of academic integrity is essential to the mission of Northeastern University. The promotion of independent and original scholarship ensures that students derive the most from their educational experience and their pursuit of knowledge. Academic dishonesty violates the most fundamental values of an intellectual community and undermines the achievements of the entire University.

As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, examinations of whatever kind, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Students are responsible for learning the conventions of documentation and acknowledgment of sources in their fields. Northeastern University expects students to complete all examinations, tests, papers, creative projects, and assignments of any kind according to the highest ethical standards, as set forth either explicitly or implicitly in this Code or by the direction of instructors.

Go to <http://www.northeastern.edu/osccr/academic-integrity-policy/> to access the full academic integrity policy.

### **MGEN Student Feedback**

Students who would like to provide the MGEN unit with anonymous feedback on this particular course, Teaching Assistants, Instructional Assistants, professors, or to provide general feedback regarding their program, may do so using this survey: [https://neu.co1.qualtrics.com/jfe/form/SV\\_cTIAbH7ZRaaW0Ki](https://neu.co1.qualtrics.com/jfe/form/SV_cTIAbH7ZRaaW0Ki)

### **University Health and Counseling Services**

As a student enrolled in this course, you are fully responsible for assignments, work, and course materials as outlined in this syllabus and in the classroom. Over the course of the semester if you experience any health issues, please contact UHCS.

For more information, visit <https://www.northeastern.edu/uahcs>.

### **Student Accommodations**

Northeastern University and the Disability Resource Center (DRC) are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act (ADAAA) to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that demonstrates a current substantially limiting disability.

For more information, visit <https://drc.sites.northeastern.edu>.

### **Library Services**

The Northeastern University Library is at the hub of campus intellectual life. Resources include over 900,000 print volumes, 206,500 e-books, and 70,225 electronic journals.

For more information and for education specific resources, visit <https://library.northeastern.edu>  
Network Campus Library Services: [Northeastern University Library Global Campus Portals](#)

### **24/7 Canvas Technical Help**

For immediate technical support for Canvas, call 617-373-4357 or email [help@northeastern.edu](mailto:help@northeastern.edu)

Canvas Student Resources: <https://canvas.northeastern.edu/student-resources/>

For assistance with my Northeastern e-mail, and basic technical support:

Visit ITS at <https://its.northeastern.edu>

Email: [help@northeastern.edu](mailto:help@northeastern.edu)

ITS Customer Service Desk: 617-373-4357

**Diversity and Inclusion**

Northeastern University is committed to equal opportunity, affirmative action, diversity, and social justice while building a climate of inclusion on and beyond campus. In the classroom, members of the University community work to cultivate an inclusive environment that denounces discrimination through innovation, collaboration, and an awareness of global perspectives on social justice.

Please visit <http://www.northeastern.edu/oidi/> for complete information on Diversity and Inclusion

**Title IX**

*Title IX of the Education Amendments of 1972 protects individuals from sex or gender-based discrimination, including discrimination based on gender-identity, in educational programs and activities that receive federal financial assistance.*

Northeastern's Title IX Policy prohibits Prohibited Offenses, which are defined as sexual harassment, sexual assault, relationship or domestic violence, and stalking. The Title IX Policy applies to the entire community, including male, female, transgender students, faculty, and staff.

In case of an emergency, please call 911.

*Please visit <https://www.northeastern.edu/ouec> for a complete list of reporting options and resources both on- and off-campus.*