



# Northeastern University

## College of Engineering

### INFO 6255 Software Quality Control and Management

#### Course Information

Course Title: Software Quality Control and Management

Course Number: INFO 6255

Term and Year: Fall 2025

Credit Hour: 4

Course Format: On-Ground

#### Instructor Information

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#### Course Prerequisites

Graduate level INFO 5100 Minimum Grade of C- or Graduate level CSYE 6200 Minimum Grade of C-

#### 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; process models, such as CMM and ISO 9001; configuration management; and the impact of new development technologies on software management.

#### Standard Learning Outcomes

Learning outcomes common to all College of Engineering Graduate programs:

1. An ability to identify, formulate, and solve complex engineering problems.
2. An ability to explain and apply engineering design principles appropriate to the program's educational objectives.
3. An ability to produce solutions that meet specified end-user needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
4. Learn all aspects of Software Quality Assurance and automation tools.
5. Learn all SDLC methodologies and distinguish the differences between them.

The Information Systems Program accepts students of different engineering backgrounds with minimum programming skills. It produces first-class Information Systems engineers who operate at the intersection of real-world complexity, software development, and IT management. Graduating students can construct end-to-end advanced software applications that meet business needs.

Specific Learning Outcomes for the Information Systems Program:

1. Create a strong technical foundation through diverse, high-level courses
2. Built crucial interpersonal skills needed to succeed in any industry
3. Foster a deep level of applied learning through project-based case studies

## Course Outcomes and Assessment Standards

- Understanding Programming languages
- Web Technology Architecture
- JavaScripting/VB Scripting
- Databases (SQL Server and Oracle)
- Familiarity with different Operating Systems
- Fluency in Word/Excel/PowerPoint/Vision

## Grading Scale

Here's the scaling of the final grading for the course.

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

## Attendance/Late Work Policy

### Attendance Policy

Students are expected to complete course readings, participate in class discussions or other learning activities during the unit, and complete written assignments for each unit during the time of that unit. It is understood that there might be one week when active participation in ongoing class conversations and learning activities might be delayed. Beyond one week, if there is an absence or lateness in participation (1) faculty must be notified in advance; (2) grades will be adjusted accordingly.

### Late Work Policy

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

## Assessment:

The final grading is done per the weights listed below.

- Class Participation (10%)
  - Your participation in the classes
- Weekly Quizzes (22%)
  - Timely Submission
  - Completeness & Correctness
- UFT and Selenium Automation Assignments (23%)
  - Group presentations of the automated scripts in the class
- Research Assignments (15%)
  - Group presentations of the research assignments in the class
- Final Project – Project (30%)

- Analyzing the Business and Functional Requirements
- Creating Test Condition Matrix/Test Scenarios & Test Cases/Traceability Matrix
- Creating a Test Plan
- Group presentation of your project in class

#### Class Rules:

- Show up to the class on time. Be punctual.
- Don't miss any classes.
- Don't miss any quizzes. There will be a total of 10 quizzes for the semester.
- All students will be in groups of 3, 4, or 5. The groups must work well together to complete the Research projects (15%), Automation Assignments (23%), and the final project (30%).
- Participate fully in the class.
- Class attendance is mandatory; class participation is worth 10% of your grade

#### INFO6255 Course Schedule

Weeks	Topics	Tools
<b>Week 1</b>	Introductions and the Housekeeping Rules	
<b>Week 2</b>	Quality Management, SDLC phases, and the QA Life Cycle	
<b>Week 3</b>	Anatomy of a Test Plan Document & Test Scenarios/Test Cases	Word/Excel
<b>Week 4</b>	Analysis of functional & business Requirements/Designing a Test Condition Matrix/Test Scenarios & Traceability Matrix	Word/Excel
<b>Week 5</b>	Waterfall & Agile (SAFe Agile) Methodologies Overview. Intro to DevOps/DevSecOps	
<b>Week 6</b>	QA Automation Testing & Tools Change and Release Management Processes	MF QC/ALM
<b>Week 7</b>	<b>Automation Tool Assignment 1: Micro Focus UFT Project - Group Presentations</b>	MF UFT & Selenium
<b>Week 8</b>	Career Management; IT Leadership, QA Job Positions & Job Interviewing Questions/Answers.	
<b>Week 9</b>	Intro to the Usability and User Experience Testing. Optimize Quality for Business Outcome Assignment – Group Presentation	
<b>Week 10</b>	Intro to Back End/Database and API Testing, AI & AI use in Automation testing.	
<b>Week 11</b>	Test Management tools Introductions: Micro Focus ALM; Jira & TestRail overview, & Cloud Computing.	Jira, TestRail, Micro Focus ALM
<b>Week 12</b>	Cross Browser and Mobile Testing; Intro to Monolithic vs. Microservices Architecture Testing. Cloud Computing Testing.	
<b>Week 13</b>	<b>Automation Tool Assignment 2: Selenium Project - Group Presentation</b>	Selenium, IDE, POM, XML

<b>Week 14</b>	Performance & Load Testing introduction using Micro Focus Performance Center; Testing Metrics & Shift Left Testing	MF Performance Center (LRE)
<b>Week 15</b>	Application Security Testing and Cybersecurity	
<b>Week 16</b>	Final Project Presentation	Excel/PowerPoint

### End-of-Course Evaluation Surveys

Your feedback regarding your educational experience in this class is very important to the College of Professional Studies. 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 before 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 HuskyMail 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.

### 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 <http://www.northeastern.edu/drc/getting-started-with-the-drc/>.

### Library Services

The Northeastern University Library is 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 Education specific resources, visit <http://subjectguides.lib.neu.edu/edresearch>.

### 24/7 Canvas Technical Help

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

myNortheastern, e-mail, and basic technical support  
Visit the [Information Technology Services \(ITS\) Support Portal](#)  
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, and transgender students, faculty, and staff.

In case of an emergency, please call 911.

***Please visit [www.northeastern.edu/titleix](http://www.northeastern.edu/titleix) for a complete list of reports.***

**More Information will be supplied upon the start of the academic semester.**