INFO6255 Software Quality Contrl & Mgmt

Introduction to Software QA and Testing

Levels: Graduate
Attributes: GSEN Information Systems
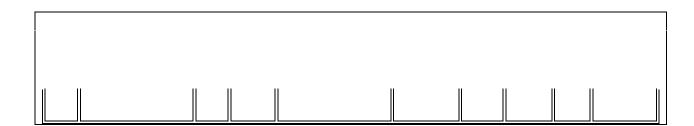**Schedule Type:** Lecture; Traditional Instructional Method or online.

Restrictions: Must be enrolled in one of the following Levels: Graduate

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

Course Description:

This course provides students with an opportunity to learn the Software Quality Assurance and Testing fundamentals and understand what it takes to be working as a QA engineer in an IT organization. Students will be introduced to relevant quality assurance techniques and guidelines and will understand the QA testing life cycle within different SDLC methodologies (Waterfall, Agile, DevOps, and etc.). The course also teaches the students the differences between manual, automation, and load/ stress testing on many different types of applications and their topologies

Technical Skills:

- Understanding Programming languages
- Web Technology Architecture
- JavaScripting/VB Scripting

- Data Bases (SQL Server and Oracle)
- Familiarity with different Operating Systems
- Fluency in Word/Excel/PowerPoint/Visio

Assessment:

The final grading is done per the weights listed below.

- **Class Participation (10%)**
- **Tests/Quizzes (30 %)**
  - Timely Submission
  - Completeness & Correctness
- **Projects/Assignments (25%)**
- **Final Exam – Project (35%)**
  - Test Condition Matrix/Test Scenarios
  - Presentation
  - Test Plan

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 7 to 8 quizzes for the semester.
- All students will be in groups of 4. They will have to work together to complete 5 Projects/Assignments (25%) and complete the final project (35%).
- Participate fully in the class. Class attendance is mandatory; class participation is worth 10% of your grade

TAs:

- TBD

- Slack Channel: TBD

Course Schedule

Week	Topics	Tools
Week 1	Introduction and the House Keeping rules.	
Week 2	Quality Management; SDLC phases and the QA Life Cycle.	
Week 3	Anatomy of a Test Plan/Strategy document.	Word/Excel
Week 4	Analysis of Functional Requirements/Designing a Test Condition Matrix/Test Cases & Traceability matrix.	Word/Excel
Week 5	Waterfall & Agile Methodologies overview. DevOps introduction.	
Week 6	Change and Release Management processes & Tools.	MF QC/ALM
Week 7	**Automation Tool Assignment 1: Micro Focus UFT Project - Group Presentations.**	MF QTP/ UFT/ Selenium
Week 8	Optimize Quality for Business Outcome Assignment – Group Presentation.	
Week 9	Intro to Back End/Database and API Testing.	
Week 10	Test Management tools Introductions: Micro Focus ALM; Jira & TestRail overview.	Jira, TestRail, Micro Focus ALM
Week 11	Cross Browser and Mobile testing; Monolithic vs. Microservices App Architecture Testing. Cloud Computing Testing.	
Week 12	**Automation Tool Assignment 2: Selenium Project - Group Presentation.**	Selenium, IDE, POM, XML
Week 13	Performance & Load Testing introduction using Micro Focus Performance Center; Testing Metrics & Testing Artifacts.	MF Performance Center
Week 14	Application Security testing and Cybersecurity.	
Week 15	Career Management; IT Leadership, QA Job Positions & Job Interviewing Questions/Answers.	
Week 16	Final Project Presentation	Excel/PowerPoint

Academic Honesty:

The Northeastern University academic integrity policy applies to your work in this course. All students are expected to adhere to this policy. For more information on academic integrity policy, please visit website: http://www.northeastern.edu/osccr/academicintegrity/index.html

Facilitating academic dishonesty – Examples may include inaccurately listing someone as co-author of Paper who did not contribute, sharing a take-home exam, or taking an exam or writing a paper for another student.

Attendance policy:

The Information Systems Department has a strict class attendance policy. Students who miss two or more Classes will automatically receive one letter grade lower in their final grade. Students who miss three Classes will receive an automatic F for the class. No exceptions are allowed for this rule

Summary:

Ability to think and work as a Software QA Analyst and have the understating of the basics of the Software QA and testing. Ability to work in a group environment and fully participate to get the projects completed.