**Course Title:** Course 1 – Software QA and Testing with Automation using Selenium IDE

**Semester:** Spring, 2015

**Instructor Name:** David F Wagoner

**Course Description:**

In today’s rapid growth of web site development, web site testing is an ever increasing field and career path in today’s technology industry.  This course provides a practical understanding of testing overall, with a focus on test automation using a simple IDE with no programming requirements. Learn how to automate testing of web sites using Selenium, one of the most popular open-source automation tools used by web site application development companies today.  Use the Selenium IDE to rapidly prototype, develop and deploy automated test scripts and suites in software projects using common development approaches such as Agile, iterative/spiral and standard waterfall lifecycles.  Understand the software testing process in terms of standard practices such as test planning, design and execution as well as types of test activities based on software testing state-of-the-practice and industry best practices used in today’s software projects. This includes how to support and integrate test automation through the phases of software projects.

Topics include a) the testing life-cycle, and how it integrates with development lifecycle phases; b) the role of test automation and the automating the elements of testing, c) stages and types of testing from unit test to user acceptance; d) methods to automate testing activities during test execution. e) Common tools used throughout the testing process; f) test and defect oriented metrics; and, g) a wide view of software testing grounded in industry best practices from the American Society for Quality and other institutes.

**Course Objectives:**

Students will learn topics including: a) the testing life-cycle, and how it integrates with development lifecycle phases; b) the role of test automation and the automating the elements of testing, c) stages and types of testing from unit test to user acceptance; d) methods to automate testing activities during test execution. e) Common tools used throughout the testing process; f) test and defect oriented metrics; and, g) a wide view of software testing grounded in industry best practices from the American Society for Quality and other institutes.

**Software/hardware requirements:**

PC with Firefox

Storage for student solutions files/downloads and to host some pages to use in exercises

[Selenium plug-in for Firefox](http://release.seleniumhq.org/selenium-ide/2.6.0/selenium-ide-2.6.0.xpi)

Microsoft Access

Textbook: [Software Testing (2nd Edition); Paperback; Patton, Ron; 2006](http://www.amazon.com/Software-Testing-2nd-Edition-Patton/dp/0672327988/ref=cm_sw_em_r_dp_DaM9tb10K45F9_lm) Cost ~ $30.00 Amazon

**Prerequisites**

**Lesson Topics**

| **Date** | **Topic** | **Chapters** |
| --- | --- | --- |
| 3/2/15 | Development and Testing Fundamental Concepts/Axioms | 1,2, 3 |
| 3/4/15 | Development Concepts: The SDLC, TLC and life-cycles  Testing Automation and Web Site Testing  Selenium IDE – Creation and Playback of Test Scripts, Test Planning | 4, 14, 15, 17 |
| 3/9/15 | Fundamental Testing Methods and Stages, Testing metrics  Selenium IDE – Creation and Playback of Test Scripts and Creating Suites, Requirements Definition | 5, 7, 20 |
| 3/11/15 | Testing tools, templates and support activities from Planning to Deployment  Selenium IDE – Creation and Playback of Test Scripts and Suites, Test Data Design | 18, 19 |
| 3/14/15 | Final Lab, Careers in software testing | Slides |