Com S/SE 417 Software Testing

Fall, 2017

Meets: Tuesday & Thursday 12:40-2:00
Horticulture Hall (HORT) 0118

Instructor: Robert Ward
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TAs:
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Office hour: 10am Monday and Friday & by appointment

Textbook: The required textbook is *Foundations of Software Testing (1st Edition),* by Aditya P. Mathur. This book is out of print. While there are a limited number of copies still in circulation, to assure that you have suitable access, we recommend you purchase the Kindle version.

We will also use material from *Introduction to Software Testing*, by Ammann and Offutt, (1st Edition) and various supplemental materials to be posted to BlackBoard.

Description: COM S 417. Software Testing. (Cross-listed with S E). (3-0) Cr. 3. S. Prereq: COM S 309; COM S 319; ENGL 250, SP CM 212. Comprehensive study of software testing, principles, methodologies, management strategies and techniques. Test models, test design techniques (black box and white box testing techniques), test adequacy criteria, integration, regression, system testing methods, and software testing tools.

Student learning outcomes:
Students to be able to design tests to meet realistic coverage criteria.
Students to be in a position to apply standard software testing techniques.

Schedule (tentative):
Aug 31 – Lab 1 due. Basic Junit and RIPR.
Sept 14 – Lab 2 due. Measured code coverage, Table-driven tests.
Sept. 21 – Exam 1.
Sept 28 – Lab 3 due. Mocks and Oracles.
Oct 5 – Lab 4 due. Creating a Test Plan.
Oct 10 – Lab 5, part 1 due. Basic HTTP monitoring, Cactus Scripts.
Oct 26 – Exam 2.
Nov 2 – Teams and research project topics finalized.
Nov 9 – Lab 5, part 2 due. Performance testing for web apps.
Nov 16 – Dec 5 Student Research Presentations
Nov 20 – Nov 24. Thanksgiving Break.
Dec 4 – Dec 8. Stop Week.
Dec 11 – Dec 15. Finals Week. Time and Place of final TBD.

Grading:
Exam 1: 10%
Exam 2: 15%
Final Exam: 20%
Labs: 35%
Homework, in-class exercises and quizzes: 10%
Project report and presentation: 10%

Attendance is required during the student presentations. To encourage regular attendance throughout the semester, homework assignments will be announced in class. To encourage timely completion of reading assignments (and attendance), I will periodically administer unannounced, in-class quizzes.

Academic Honesty: Students are expected to read, understand and comply with the ISU Student Conduct Code: "The academic work of all students must comply with all university policies on academic honesty. Examples of academic misconduct are:

A. Attempting to use unauthorized information in the taking of an exam;
B. Submitting as one's own work, themes, reports, drawings, laboratory notes, computer programs or other products prepared by another person;
C. Knowingly assisting another student in obtaining or using unauthorized materials; or
D. Plagiarism.''

See sec. 4.2.1 of the code at http://policy.iastate.edu/policy/SDR#4.2.1 or talk to the instructor if you have any questions. Anyone suspected of academic dishonesty will be reported to the Dean of Students Office.

Accommodation Requests: Iowa State University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Any student who may require an accommodation under such provisions should contact the instructor no later than the end of the second week of class or as soon as you become aware of it.