

Course Syllabus

Course Information

CS/CE/SE 6367.002
Advanced Software Testing and Verification
Spring 2016
Tue/Thur 4:00pm-5:15pm
GR 2.530

Professor Contact Information

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Office: ECSS 4.205
Office hours: Tue/Thur 2:30pm-3:30pm

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CE 5354 or CS 5354 or SE 5354 or instructor consent required.

Course Description

Basic concepts in software testing
Test adequacy
Automated test generation
Mutation testing
Regression testing
Automated oracle generation
Automated debugging
Automated program repair
Program analysis
Formal methods in software testing

Student Learning Objectives/Outcomes

- 1) Ability to understand software testing and verification concepts
 - 2) Ability to understand and apply test adequacy measurements
 - 3) Ability to understand and use automated test generation techniques
 - 4) Ability to understand and use regression testing techniques
 - 5) Ability to understand and use mutation testing techniques
 - 6) Ability to understand and use automated oracle generation techniques
 - 7) Ability to understand and apply automated debugging and repair techniques
 - 8) Ability to understand and perform static source code analysis
 - 9) Ability to conduct software testing research project
 - 10) Ability to use various source code or bytecode analysis tools/frameworks
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Required Textbooks and Materials

NONE

Recommended Textbooks and Materials

Introduction to Software Testing (1st Edition), ISBN: 978-0521880381

Foundations of Software Testing (2nd Edition), ISBN: 978-8131794760

Assignments & Academic Calendar

4:00pm-5:15pm March 1st, Exam-1

4:00pm-5:15pm April 28th, Exam-2

11:59pm Feb. 29th, course project proposal deadline

March 14-19th, holidays (no class)

11:59pm April 30th (last day of class), course project final submission deadline

Grading Policy

Exam-1: 20%

Exam-2: 20%

Homework: 20%

Class participation and quizzes: 10%

Course Project: 30%

Course & Instructor Policies

1. Extra credit work will be available as informed by the instructor.
 2. Rules for grading can change at instructor's discretion.
 3. Assignments will not be accepted late unless there are extraordinary circumstances.
 4. Assignments should include the class, your (team) name, your utd id, and the title of the assignment. The assignments missing identity may not get credit.
 5. Assignments should be submitted through eLearning, but may also be accepted as hardcopy hand-ins.
 6. You are expected to attend class. Students not reporting by the 3rd lecture will have their final grade dropped by one letter grade (from A to B, from B to C, C to F, etc.)
 7. Cell phones shall not be used in the classroom during sessions. If you are expecting an emergency you may place them on silent. If you receive a call, leave the room.
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UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.