

Welcome to

SWE 637

Software Testing

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History of the Class

- 1990s – Used a book by Boris Beizer and a collection of papers
 - Very theoretical
- 1998-2002 – Tried to integrate more realism
 - Beizer’s book became out of date
- 2002 – Beizer’s book went out of print – unavailable
 - No suitable books available
 - Ammann & Offutt start writing a new book
 - Fall 2002: used 3 chapters, distributed as PDF
- 2007 – *Introduction to Software Testing* sent to publisher
 - First printing January 2008
- 2009 – SWE 637 becomes a core course for SWE majors
 - At the urging of the departmental Industry Advisory Board

Class Overview

- Class URL : <http://www.cs.gmu.edu/~offutt/classes/637/>
- Contact info, TA
- Objective : How to design effective tests, both at the unit and system level
- Readings : Posted in schedule
- Quizzes : Weekly, first 15 minutes of class
 - No makeups, 3 lowest grades are dropped
 - Replaces traditional midterm exam
- Homework : Almost weekly
 - Due on paper at the beginning of class
- Final : 19 December, comprehensive closed-book

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Prerequisites

- SWE 619 or (CS 540 & CS 571 for CS students)
 - Discrete math and programming, OO concepts such as type theory and contracts
 - General software engineering
- Intent : Prerequisites define what you need to know before taking a class to succeed in the class
- Not knowing that material means you are taking the class “at risk”
 - That is your responsibility
- GMU’s registration system allows you to register for any class on campus

Please do not ask if you “can take the class without the prerequisites” ... the question is meaningless.
You can, but I advise against it.

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Grading Policy

- 5% : Blackboard participation
 - 30% : Homeworks
 - 30% : Quizzes
 - 35% : Final – closed book, in-class, comprehensive
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- > 90% : definitely an A or A- (possibly slightly lower)
 - > 80% : definitely a B or A (possibly slightly lower)
 - > 70% : definitely a C, B or A (possibly slightly lower)
 - One A+ — the top grade in the class
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- In the past, usually about 30% As and 50% Bs

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Textbook

Goal

Get the math right first, so that we can make the concepts clear and simple

- Book focuses on test design and other technical aspects of testing software
 - Assumes readers are programmers and know discrete math
- Traditional books treat testing in terms of the lifecycle
 - Unit testing, integration testing, system testing, ...
 - Our book starts with structures that can describe software artifacts at any level, then criteria based on those artifacts
- Instead of how testing is done, we cover testing how it should be done and how it will be done

<http://www.cs.gmu.edu/~offutt/softwaretest/>

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Textbook Note

The authors donate all royalties
from sales of the book to The
Software Engineering Scholarship
Fund at GMU

We do not use any funds generated
from sales of our book personally

Schedule

- URL :
<http://www.cs.gmu.edu/~offutt/classes/637/sched.html>
- Please read before class
- Slides and homeworks posted before class
 - If I update slides from what's posted today, I will add a “new” image to the slides
- Handouts and notes are there for your benefit and entertainment



Blackboard Use

- All GMU students have blackboard accounts
 - <https://courses.gmu.edu/>
 - Login with your standard GMU account (email)
- Use of the discussion threads will count for 5% of your grade
- Questions should be posted to an appropriate thread
 - Answered by instructor or TA
 - Questions and answers available for all to see
- You MAY submit homeworks to blackboard or bring hard copies to class
 - Most homeworks are best done with pencil and paper

24-Aug-11

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DE Option

- I will be broadcasting lectures via the internet
 - Synchronous delivery
 - Using Elluminate
- DE Option rules:
 - Must attend half or more of the lectures via DE
 - Replace quiz grades (30%) with either
 1. A paper
 - or
 2. A major project
 - Must make an agreement with me
- **DE students must still take the final exam with the rest of the class**

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