

ECE.653

Testing, Quality Assurance, and Maintenance
Winter 2017

Prof. Arie Gurfinkel



Instructor and TA

Instructor

- Prof. Arie Gurfinkel

Teaching Assistant

- [Thibaud Lutellier](#)

Course Web Page

- <https://ece.uwaterloo.ca/~agurfink/ece653>
- LEARN: <https://learn.uwaterloo.ca>

A little about me

2007, PhD University of Toronto

2006-2016, Principle Researcher at Software Engineering Institute, Carnegie Mellon University

Sep 2016, Associate Professor, University of Waterloo



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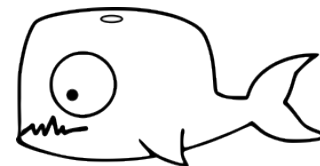
UFO



FrankenBit

SPACER

Avy



SeaHorn

Grading

Assignments: 30%

Midterm: 20%

Final Exam: 50%

Grades may be curved or adjusted at the Instructor's discretion

3 Assignments

- Pen and paper exercises, and
- Programming assignments
 - mostly in Python

Textbook and Lecture Notes

No required text book. Lecture slides and notes will be provided.

- <https://ece.uwaterloo.ca/~agurfink/ece653>
- LEARN: <https://learn.uwaterloo.ca>

Course Website & LEARN

The course website is the definitive source

- When in doubt, consult the web page
- Check syllabus for final grade computation

YOUR responsibility to check for updates!

- Course website
- LEARN (<http://learn.uwaterloo.ca>)

Independent Work

All work turned in must be of that individual student unless stated otherwise.

Violations will result in zero credit to all students concerned. University of Waterloo Policy 71 will be followed for any discovered cases of plagiarism.

Policy on Late Assignments

You have 2 days of lateness for assignments that you can use throughout the term

- These are TWO days for the term. Not for each assignment!

Each day the assignment is late consumes one day of lateness

For example,

- You can be 2 days late on assignment A1, or
- One day late on A1, and one day late on A3, or
- You can hand all of the assignments on time 😊

Missed Midterm

If you miss the midterm, you will receive 0 for it. If you have a legitimate reason (at the discretion of the instructor) for not taking the midterm and obtain a permission from the instructor **a week** in advance, the percentage for the midterm will be shifted to the final.

See syllabus for more detail

<https://ece.uwaterloo.ca/~agurfink/ece653/syllabus.html>

Is this course for me?

Not a TESTING course!

- Foundations of Testing / Coverage
- Foundations of Symbolic Execution and Symbolic Reasoning
- Foundations of Deductive Program Verification
- (Possibly) Foundations of Automated Verification

Enough background?

- Can you code? (Python?) <https://docs.python.org/2.7/tutorial/>
- Have you used a Unix/Linux machine before?
 - command line, shell, editor...
- Do you know Logic / Automated Reasoning?
 - Propositional logic: AND, OR, NOT, Boolean SATisfiability
- Do you have basic understanding of Compilers?
 - Control Flow Graphs, Operational Semantics, Intermediate Representation
- Have you used a SAT / Theorem Prover / Constraint Solver / SMT ?

Contact

Office Hours

- by appointment
- best time is before/after lectures

Email (email address on the course web page)

- <https://ece.uwaterloo.ca/~agurfink/ece653>
- Identify yourself
 - Originated from your uwaterloo email address, or
 - Signed with your full name and student ID
- Start **Subject** of email with **[ECE653]**

Use discussion groups on LEARN

Course Time and Location

Date: Monday, Wednesday, Friday

Location: E2 1303

Time: 3:30 – 4:20 PM