#### Lecture 36 — Course Review

Jeff Zarnett jzarnett@uwaterloo.ca

Department of Electrical and Computer Engineering University of Waterloo

August 21, 2016

ECE 254 Fall 2016 1/17

## **Exam Coverage**

The exam is based on material we have covered in the lectures & labs.

The exam is cumulative: covers from the first lecture to the last.

Lab material you are expected to know covers Labs 1 through Lab 5.

ECE 254 Fall 2016 2/1

Lecture 1: Introduction

Lecture 2: Review of Computer Architecture

Lecture 3: OS Structure and Traps

ECE 254 Fall 2016 3/

**Lectures: Processes** 

Lecture 4: Processes

Lecture 5: Process State

Lecture 6: Processes in UNIX

ECE 254 Fall 2016 4/1

Lecture 7: Inter-Process Communication

Lecture 8: Threads

Lecture 9: POSIX Threads

Lecture 10: Symmetric Multiprocessing

ECE 254 Fall 2016 5 / 1

Lecture 11: Concurrency & Atomicity

Lecture 12: Semaphores

Lecture 13: Classical Synchr. Problems

ECE 254 Fall 2016 6/1

Lecture 15: Deadlock

Lecture 16: Deadlock Avoidance

Lecture 17: Deadlock Detection & Recovery

Lecture 18: Concurrency/Synchr. in POSIX

ECE 254 Fall 2016 7/1

Lectures: Memory

Lecture 19: Memory

Lecture 20: Dynamic Memory Allocation

Lecture 21: Segmentation & Paging

Lecture 22: Caching

Lecture 23: Virtual Memory

Lecture 24: Virtual Memory II

ECE 254 Fall 2016 8/

Lecture 25: Uniprocessor Scheduling

Lecture 26: Scheduling Algorithms

Lecture 27: Scheduling, Idling, Priorities

Lecture 28: Multiproc./Realtime Scheduling

Lecture 29: Scheduling UNIX/Linux/Windows

ECE 254 Fall 2016 9 / 1

Lecture 30: I/O Devices, Drivers

Lecture 31: Disk Scheduling

Lecture 32: File System Interface

Lecture 33: File System Implementation

Lecture 34: File Allocation Methods

ECE 254 Fall 2016 10 / 1

# Lectures: Virtualization

Lecture 35: Virtualization

ECE 254 Fall 2016 11/17

### **Basic Exam Information**

Date of Exam: Thursday, 13 August 2015

Time Period: Start: 09:00. End: 11:30

Duration of Exam: 150 minutes
Exam Type: Closed Book

Additional Materials: Non-Programmable Calculators

We are writing in: PAC Check Odyssey for your assigned seat.

ECE 254 Fall 2016 12 / 1

#### **Exam Instructions**

- No aids are permitted except for non-programmable calculators.
- 2 Turn off all communication devices.
- There are four (4) questions, some with multiple parts. Not all are equally difficult.
- The exam lasts 150 minutes and there are 100 marks.
- If you feel like you need to ask a question, know that the most likely answer is "Read the Question". No questions are permitted. If you find that a question requires clarification, proceed by clearly stating any reasonable assumptions necessary to complete the question. If your assumptions are reasonable, they will be taken into account during grading.

ECE 254 Fall 2016 13/

#### **Exam Stats**

Preliminary statistics on the exam:

- About 70% of the exam is post-midterm material
- About 20% of the exam is C programming

ECE 254 Fall 2016 14/17

## How to Prepare

How to prepare for the final exam:

- Review lecture notes and slides.
- 2 Review the tutorial slides.
- 3 Understand your lab solutions.
- 4 Try old exams.
- 5 Ask for extra help if you need it (we have 3 TAs + 1 instructor).

ECE 254 Fall 2016 15/17

#### Tips for the Exam:

- 1 Take the time to read the question carefully.
- 2 You can use point form instead of full sentences.
- 3 Don't leave questions blank Nothing on the page = 0 marks.
- 4 Do the questions you know (or find easy) first, then move on to more challenging ones.
- **5** Keep an eye on the time.
- 6 Sleep the night before (all nighters are bad).

ECE 254 Fall 2016 16/17

### **About Grades**

No grades can be released until after the end of exams.

You'll see them in Quest when grades for the term become available.

ECE 254 Fall 2016 17/1