Overview

As of the initial making of this guide on April 9th there is still a solid chunk of material for you to cover and as such this guide will be updated as the semester comes to a close. There will be three sections to the guide, one detailing how to study for the exam, and two other sections separated by the topic type of what you are responsible for knowing and where you can find more information on it. Remember as the name suggests, this is a GUIDE, as a college student you are responsible for practicing and understanding the material.

Structure of the Final

Three sections: Multiple choice, Short Answer and Java Coding Free Response

1. The Multiple Choice section has 40 questions worth one point each
2. The Short Answer section has 15 questions worth three points each
3. The Free Response section has 3 questions worth five points each

10 Multiple choice questions are term review, 25 multiple choice questions are based on questions you've seen from the quizzes. 5 are on topics covered in lecture but not on the quizzes.

The Free Response questions give you code discussed in Lecture and ask you to create new functionality. These questions build on each other however you are still able to get questions 2 and 3 correct if you do not get question 1 correct

How You Should Study

This course provides 3 main resources for you to study the material. The Lectures, and the two assigned textbooks for the course. Most importantly you should rewatch the lectures on topics you feel uncomfortable with as not everything discussed in lecture is in the book but everything discussed in the lectures are eligible to be on the exam. Lectures are available for rewatch in the zoom class sessions section of courseworks.

On top of the primary sources for learning the material, check out the supplemental sources in the files section of courseworks such as the review slides/videos and the materials uploaded by Grin in his OH material section of the files.

Programming Concepts

1. Java Basics: Lecture 4 Horstmann Chapters 1, 4 and Chapter 2 Section 2
2. Iteration and Conditionals: Lecture 5 Horstmann Chapters 5 and 6
3. Writing and Using Classes: Lecture 6 Horstmann Chapters 2 and 3
4. Better Classes and Strings: Lecture 7 Horstmann Chapters 2 and 3
5. Using Classes: Lecture 8,13 Horstmann Chapter 8
6. Top-down design: Lecture 12 Horstmann Chapter 8
7. Arrays and Arraylists: Lectures 16-18 Horstmann Chapter 7
8. Files and Exceptions: Lectures 23,27 Horstmann Chapter 11
9. Inheritance and Polymorphism: Lecture 24,27 Horstmann Chapter 11

Theoretical Concepts

1. Algorithms and Algorithmic Problem Solving: Lectures 1-3

S&G Chapters 1-3

2. Representing Information and Boolean Logic: Lecture 9 S&G Chapter 4

3. Circuit Construction and Computer Organization: Lectures 10-11

S&G Chapter 4-5

4. Computer Networks Lectures 20-21 S&G Chapter 7

5. Dijkstra's Algorithm Lecture 21 (NOT IN BOOK)

6. Computability (Turing Machines) Lecture 25-26 S&G Chapter 12

PLEASE SEE LECTURE 28 SLIDESHOW ON COURSEWORKS FOR MORE SPECIFIC DETAILS RELATING TO THE FINAL AND ATTEND OFFICE HOURS TO GO OVER MORE MATERIAL YOU HAVE QUESTIONS ON