Lecture 01: Welcome
10:00 AM, Sep 5, 2018

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1 Course Organization and Design

CS17 contains weekly homework assignments, weekly two-hour labs, four larger projects, and one take-home final exam.

CS17 is not more work than CS15, we spend on average around the same number of hours per week!

CS17 is integrated, and as such, we’ll cover both programming and theory. CS17 is also introductory: everyone is able to take it, even without any computer science experience whatsoever! If you have had experience in the past, great, you’ll fit in here as well!

1.1 Grading

Grading is absolute, which means that everyone that deserves an A will get one.

For each assignment, the dividing lines between A, B, C and NC will be determined based on how well people do on the assignments.

Homework is given to help you develop skills through practice and as an opportunity for evaluation. Even though we typically don’t grade all questions on all assignments, doing them is a good idea.

1.2 More Course Information

Read the Syllabus and Course Missive!

1.3 What you will learn this year

- Fundamental concepts of functions
- How to program and debug in the two languages, Racket and OCaml
- The meaning and purpose of various logical programming constructs that are universal to all languages
• How to program in a functional style

• How to define data structurally and in a way that proves your program can’t have certain types of errors

• Various algorithmic solutions to sorting, a fundamental problem in computer science

• How to analyze a program’s runtime

1.4 CS17 vs. CS15

• Multilingual: CS17 emphasizes CS concepts over syntax, and suitably has students learning to program in two different languages.

• No magic: In CS17, students will understand entirely the logic of their programs after writing them. In CS15, some of this understanding is traded for the ability to write more elaborate programs.

• No user: CS17 students are (for the most part) not expected to plan their programs around the user. This allows students to focus attentions instead on writing elegant code that works with the correct input.

• Functional: CS17 programs are written using functional programming, while CS15 programs use object-oriented programming. If neither of these terms mean anything to you don’t worry! You will certainly understand them better by the end of the year.

• No prior experience is necessary, expected, or drawn from in either CS17 or CS15.

Please let us know if you find any mistakes, inconsistencies, or confusing language in this or any other CS 17 document by filling out the anonymous feedback form: http://cs.brown.edu/courses/csci0170/feedback.