COLBY COLLEGE
Computer Science Department

CS151
Fall 1999

Allen B. Downey

Syllabus

- Professor: Allen B. Downey (downey@colby.edu)
- Office: Mudd 417, x3672
- Class time: MWF 11:00am to 11:50am, Mudd 405.
- Lab time: Wednesday, 1:00 to 2:30pm or 2:30 to 4:00pm, 323 Olin.
- Textbook: Downey, *How To Think Like a Computer Scientist*, Second Edition, August 1999.
- Web page: The handouts that I produce (as opposed to the ones I photocopy from other sources) will be available from the class web page. The URL is `http://rocky.colby.edu/cs151`
- Class-related email: I don't use a Macintosh, so please don't send me attached documents in formats other than plain text.
- Help: There will be teaching assistants for this class in the lab (Olin 323) most nights of the week from 7-10. The exact schedule will be announced during the first week of classes.

  In addition, there are tutors available that can work with individuals or small groups at no cost. Contact the professor to make arrangements for a tutor.

1 Is cs151 the right course for you?

The computer science program offers three introductory classes:

cs113: Great ideas in CS This class offers a broad introduction to several topics within computer science. It involves some programming, but also other work. cs113 is not a prerequisite for any other class. It is being offered this fall, but not in Spring 2000.

cs117: Explorations with robots This is a new class that will be offered during January 2000. It is intended to be an introduction to programming and other computer science topics using robots. It is appropriate for both majors and non-majors.

cs151: Structured programming This class is the first class of the sequence for computer science majors, although it is also appropriate for non-majors. It takes a more rigorous approach to programming, and involves more formal and mathematical thinking than cs113. It is also less broad than cs113, focusing on Java programming.

All three classes have no prerequisites and assume no prior programming experience.

2 Coursework

Work in this class will include readings from the textbook and from additional sources I provide, weekly programming assignments, three one-hour exams, and in-class activities including collaborative exercises and written quizzes.

The total course load is intended to be 12 hours per week (including class time); the load should be spread evenly across the semester.

- Grading: Final grades are primarily determined by the three exams (45%), the final (20%) and the written quizzes (35%). There will be at least one quiz per week. Unusually good (or bad) homeworks and class participation can affect your final grade by up to a full letter.
- Exams: The three exams are scheduled for Wednesday 29 September, Wednesday 27 October, and Monday 22 November. The final is scheduled for exam slot 7.

  If you miss one exam for an extremely legitimate reason, your final grade will be based on the other exams. If you miss an exam without a legitimate reason, you will receive a zero. If you miss two exams for any reason, or the final, you cannot pass the class.
- Assignments: The weekly programming assignments are designed to give you an opportunity to apply and practice the material we cover in lecture. You will derive the greatest benefit from these assignments if you work on them alone and resist the temptation to get complete answers from other students, the TAs, or me.

Consulting with other students and even working in groups is acceptable, with the following strong warnings:

Plagiarism: It is never acceptable to present someone else's work as if it were your own. Unless stated otherwise, I will assume that all work you hand in is yours and yours alone. If you work with another student, you must acknowledge that student's contribution in writing on your assignment. If you get help from me or a TA that constitutes a significant part of the assignment, you should acknowledge that, too. If you are not sure, err on the side of caution.

Self-deception: If you ride on the coat-tails of others, it is easy to convince yourself that you are learning the material when you are not. If you do not do the assignments, or you let others do the assignments for you, you will probably not do well on the quizzes and exams.

In some ways, this class is like a cruise ship. If you stay on board, it can be quite pleasant. But if you fall overboard, you have to yell for help immediately, while we can still send back a lifeboat. Once the ship is out of earshot, you're in big trouble.

3 Calendar of topics

We will be following the order of presentation in the book, at a pace of roughly one chapter per week.

- Week 1: The way of the program
- Week 2: Variables and types
- Week 3: Methods
- Week 4: Conditionals, graphics and recursion
- Week 5: Methods that return things
- Week 6: Iteration
- Week 7: Strings and things
- Week 8: Interesting objects
- Week 9: Create your own objects
- Week 10: Arrays
- Week 11: Object methods
- Week 12: Arrays of objects
- Week 13: Object-oriented programming