COLBY COLLEGE
Department of Mathematics
and Computer Science

CS115 **Allen B. Downey**
Spring 1999

Syllabus

Professor: Allen B. Downey (abdowney)
Office: Mudd 417, x3672
Class time: MWF 9:00am to 9:50am, 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*, 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/cs115
Class-related email: I don't use a Macintosh, so please don't send me attached documents in formats other than plain text.

1 Is cs115 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 will be offered in Fall 1999 and Spring 2000.

cs115: 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.

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.

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 February 26, March 19 and April 16. The final is scheduled for exam slot 8.

There will be no makeup exams for any reason. If you miss one exam for an extremely legitimate reason, your final grade will be based on the other two 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