

Welcome to CS 171

Textbook:

Robert Sedgewich, Algorithms in Java, Addison-Wesley

Instructor:

Dr. Jianmin Ma

Office: Seney 115

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Meeting: MWF 11:45-1235 pm

Hours: T Th 4:30-5:30 pm or by appointment

Prerequisite: Our prerequisite is CS170, or an equivalent introduction to Java (such as AP credit). In particular you should have seen classes, inheritance, interfaces, arrays and lists. CS171 is a prerequisite for CS253, where you will study more advanced data structures and algorithms.

Course Content: This course is about algorithm design and analysis. For this purpose, we will study various data structures including arrays, linked lists, stacks, queues, trees, etc. We will cover various searching and searching algorithms.

We will use both empirical and analytic techniques. Much of our work will be in Java, but there will also be some written work, and some work in the C language.

Book and Rough Syllabus Our textbook is Algorithms in Java: Parts 1-4, 3rd edition, by Robert Sedgewick. The book is quite detailed, and has much more material than we can hope to cover in a semester (in fact it may be reused in CS253). Nevertheless we will attempt to cover at least the core topics of Chapters 2-8, 10, and 12. In order to get at some practical issues, we will also do some work in the C programming language. Therefore, you need a C language reference; I recommend The C Programming Language by Kernighan and Ritchie, but any modern reference should suffice.

Class Attendance is mandatory. If you must miss class due to illness or other valid excuse (e.g. athletic event) please send me email with explanation. An inordinate number of absences will handled in accordance with the College's policy.

Being late for classes is quite annoying. Being late twice carries a penalty of one percent of overall points.

Projects, unless otherwise specified by the instructor, are to be completed individually. You will handin your projects with scripts on an unix machine. Late assignments will not be accepted without permission. If permission is given, the following penalties will be assigned:

- 1 day late: 10% reduction
- 2 days late: 20% reduction
- 3 days late: 30% reduction
- Not accepted after 3 days late.

Exams can not be made up without prior arrangement with the instructor with the exception of Emergency. Three in-class exams are on the Fridays of the following dates:

Beware! The exams will be more conceptual than the programming assignments. Therefore doing well on your programs will not suffice to prepare you for the exams; you must also keep up with the concepts in lectures in order to do well on the exams. **Evaluation:**
Projects 40%; Exams 36%; Final: 20%; Attendance and participation: 4%

92 - 100% A	90 - 91% A-	
88 - 89% B+	82 - 87% B	80 - 81% B-
78 - 79% C+	73 - 77% C	70 - 67% C-
58 - 66 % D	57 % and below: F	

Honor Code

THE HONOR CODE OF OXFORD COLLEGE APPLIES TO ALL WORK SUBMITTED FOR CREDIT IN THIS COURSE. BY YOUR SIGNATURE ON SUCH WORK YOU PLEDGE THAT WORK WAS DONE IN ACCORDANCE WITH RULES STIPULATED ON THE WORK OR IN THIS SYLLABUS.