Syllabus and Class Information
Computer Science 311
Fall 2013

Instructor

Dr. James Lathrop
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Office hours: (see below) and by appointment

TA

Taylor Bergquist	knexer@iastate.edu
Don Nye	omacron@iastate.edu
Row Swagoto	roy@iastate.edu
Sam Ellis	sjellis@iastate.edu
Liping Wu	lipingwu@iastate.edu
Yalin Ke	yke@iastate.edu

Office Hours All TA office hours are in room 145 Pearson

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 - 8:50					
9:00 - 9:50					
10:00 - 10:50	Sam	Yalin/ Jim 10:30	Liping	Yalin	
11:00 - 11:50	Sam	Yalin	Liping	Yalin	
12:10 - 1:00	Sam				Roy
1:10 - 2:00	Sam		Taylor	Taylor	
2:10 - 3:00		Jim	Liping		Roy
3:10 - 4:00		Don	Liping		Roy
4:10 - 5:00		Don			Roy

Recitations

Section 3, Monday 2	(Gilman 1801)	Don
Section 4, Tuesday 2	(Ross 0027)	Sam
Section 1, Wednesday 2	(Atanasoff B29)	Roy
Section 2, Thursday 2	(Marston 209)	Taylor

Examinations

Midterm	TBD
Final	See ISU web pages

Grading

Grading will be based on the two tests, including the final, and programming projects or homework exercises with the following weighting.

Midterm Exam: 30%
Final Exam: 40%
Homework assignments/Projects: 30%

Textbooks

The Algorithm Design Manual
Steven S. Skiena, Springer

Homework Assignments

Homework exercises and programming assignments will be assigned over the semester. There may be more than one assignment assigned to students at the same time, and some longer assignments. Longer assignments may be worth more points. All programming assignments must be written in Java and submitted electronically to the Blackboard system. Late homework will be accepted, but its value will decrease 20% if it is one day late, and 40% if it is two days late. You will receive no credit for assignments turned in after two days. For the purpose of turning in late assignments, holidays and weekends do NOT count as a day. For example, an assignment worth 100 points maximum, will be worth 80 points maximum if it is one day late, 60 points if two days, and nothing if it is turned in later than two days.

A homework exercise and a programming project will be due during the last week of class.

WebCT/Blackboard

We will be using Blackboard for this course.

Academic Dishonesty Policy

Academic Dishonesty is not tolerated. A grade of F will be assigned for the final grade for any student found guilty of academic dishonesty and the student reported to the Dean of Students' office. Any type of plagiarism is considered dishonest. In addition, you are responsible for keeping your own work secure. If another student copies your work without your knowledge, you will both be held responsible. It is your job to ensure that other students cannot read your work.

Examples of academic dishonesty include, but are not limited to:

Any type of plagiarism on homework assignments or programming assignments
Allowing another student to plagiarize your work
Splitting the work for an assignment and turning in multiple copies
Reading code or answers out loud to another person while they type it in
Allowing another student to look at work on a display screen or paper

It is not considered dishonest to work on problems together provided that each individual write up their solutions without any notes of any kind that were made during the collaboration. You must also credit any person or document that you use in coming up with your solutions.

Course Objective

Know a set of "standard algorithms" (and data structures) and be able to model and problem to use them.

Gain a strong foundation in designing algorithms based on common techniques, including greedy, divide and conquer, dynamic programming, etc.

Be able to reason about correctness of algorithms, either by proof or providing a counter example.

Be able to recognize intractable problems and have an idea on how to develop approximation algorithms.

Be able to implement algorithms given their description.

Tentative Course Topics (not necessarily in order)

Formalisms, Problems, Proofs
Big O and other asymptotic bounds
Common data structures, including hash tables, trees, and containers, and algorithms on these data structures
Sorting and searching
Graphs and graph algorithms
Greedy algorithms
Heuristic algorithms
Dynamic programming
NP completeness
Approximation algorithms

The instructor reserves the right to enforce ISU policy concerning examination scheduling

Lectures in this class are copyrighted by various sources. In class photography is not permitted.

Iowa State University complies with the American with Disabilities Act and Section 504 of the Rehabilitation Act. Any student who may require an accommodation under such provisions should contact me as soon as possible. No retroactive accommodations will be provided in this class.