

SYLLABUS
CS 350: Computer Algorithms
Winter 2020
M/W 004 Section: CH 269, 4:40 – 6:30
T/R 001 Section: EB 103, 12:00 – 1:50

Prerequisite: **CS 251 & 251 – Passed with a C or better**

Instructor: Dr. David P. Ely
E-mail: ely@pdx.edu
Office: FAB 120-17
Office hours: David's:

Monday's & Thursday's: 2:45 pm – 4:00 pm
or by appointment

TA:
Pei Du: pdu@pdx.edu
TBA:

Office Hours: FAB 120 Fishbowl (between the 2 sets of glass doors) :
Day and time to be determined and announced in class

Exam Dates

M/W Section:

Midterm : In class, 2/12/2019 (during regular class hours)
Final: In class, 3/16/2019 from 5:30 pm – 7:20 pm

T/R Section:

Midterm : In class, 2/13/2019 (during regular class hours)
Final: In class, 3/19/2019 from 10:15 am – 12:05 pm

Texts: Introduction to The Design and Analysis of Algorithms, Third Edition
By
Anany Levitin

The textbook is a supplemental material. Reading the book is an important component of success, but is a POOR substitute for attending class. Regular attendance is EXTREMELY important.

Lecture Notes: Taking notes in class is highly recommended. You may share your notes with fellow students if you wish.

PSU ID: Bring your PSU ID card to lectures and exams; it may be used for attendance purposes. You may not be allowed to take exams without first showing your PSU ID on the day of the exam.

Disabilities: If you have a learning or physical disability which interferes with you taking the course, please contact PSU's Disability Resource Center (DRC: 503-725-4150). They will determine how the course is to be Adjusted for your individual needs.

After the DRC has determined accommodations, notify the instructor immediately to arrange needed support. This includes any accommodations required for taking examinations.

IMPORTANT! If you have a DRC accommodation for exam taking and you wish to exercise your accommodation, you must attempt to sign up to take your midterm / final exam(s) in the SHAC Testing Services Facility within the first 3 days of the term. **Space in the SHAC Testing Center is very limited and spots for students to take the final exam will often be completely filled within the first week or the term.**

All DRC quizzes and exams must be taken at the same time as the in-class quizzes and exams except when otherwise pre-authorized by the instructor. Such pre-authorization should take place at least 48 hours prior to the in-class quiz or exam, so if you need an exception ask for it as early as possible in the term.

Video/Audio Recording Policy:

The instructor does NOT consent to any portion of class being video/audio recorded. The only exception is in the case of DRC approved recordings and in these situations, students with this specific DRC accommodation must adhere to all DRC video/audio recording guidelines.

Course Description and Goals:

Techniques for the design and analysis of algorithms. Case studies of existing algorithms (e.g. sorting, searching, graph algorithms, dynamic programming, matrix multiplication fast Fourier transformation). NP-completeness.

The goals are to develop a group of useful algorithms which can be used to solve common problems. The development of tools and principles for analyzing the time and space used by these algorithms. The course will include case studies of existing algorithms (sorting, searching, graph algorithms, greedy programming, string alignment and approximation algorithms). An introduction to NP-complete sets and approximation algorithms for some languages in NP is given.

Important Class Expectations:

Attending all lectures in their entirety is expected. Students *will* miss important information should they miss lectures and are responsible for the missed material.

To make up a missed exam, students must provide a legitimate excuse from SHAC (Student Health and Counseling Center) OR be granted a make-up opportunity by the instructor, which should be requested **before** the exam.

All exam and/or quiz work is expected to be the original work of the individual student. Students are not allowed to query the internet or other individuals on exams/quizzes. Such actions will be considered cheating and will be subject to the **CHEATING** policy listed below.

Homework:

Homework or labs will be assigned on a regular basis. Students are responsible for submitting all homework assignments. Late homework will not be accepted unless the instructor gives special consent. Peer-grading techniques may be used to grade homework efficiently in class as the instructor goes over answers to the homework on the day it is due. Your lowest homework score will be dropped.

Labs:

There will be some programming lab assignments in this course. Students may work individually or in a group of 2 for labs in which group work is allowed at all (whether or not a lab is considered a group lab or individual lab will be announced at the time of assigning the lab).

Each group lab submission must include the names of all people who worked on and are responsible for the lab submission. Individuals may not receive credit if they cannot answer questions about the lab to the instructor's satisfaction. This means that each member of each lab submission could potentially receive a different grade on any group lab.

Group labs can only be discussed with other group members, the instructor, and the TA and discussion with any other person(s) will be subject to the **cheating** policy listed below.

Individual labs can only be discussed with the instructor and the TA and discussion with any other person(s) will be subject to the **cheating** policy listed below.

Late labs will not be accepted unless the instructor gives special consent.

Help:

Students are encouraged to attend office hours of the instructor and TA to receive help. Depending on the availability of resources, group office hours may be offered.

Students are encouraged to form study groups and help each other learn the material outside of class or during in-class lab work time.

Grading Policies:

- Homework/Labs: 30% of your grade (your lowest homework score will be dropped)
- Midterm Exam: 35% of your grade (but a 0 will result in a failure for the course)
- Final Exam: 35% of your grade (but a 0 will result in a failure for the course)

• It is against department policy to give exams early (no exceptions!).

- **If a DRC exam is being taken, please email your teacher 48 hours prior to the exam with a reminder that an exam is needed at the testing center.** Do not expect an exam to automatically be sent without such email.

- **GRADING**

A 93%	A- 90%	
B+ 87%	B 83%	B- 80%
C+ 77%	C 73%	C- 70%
D+ 67%	D 63%	D- 60%
F < 60%		

A zero on any exam will result in a failing grade for the course.

- **No Basis for a Grade** – A no basis for a grade in this class only applies when a student has not turned in any work and not taken any exams. If you have complications and cannot finish the class, make sure to drop or withdraw. *Otherwise you will get a grade in the class.*

- **INCOMPLETES** will be given only when a minimal amount of work remains to be completed, only for a valid reason and only for a fixed time period. ***Do not expect an incomplete in this class.***

CHEATING:

Each student is expected to submit only original work on exams/quizzes. **Any person who violates these requirements will receive a grade of zero which based on the aforementioned grade requirements will result in an F for the course.** A letter will be sent to the head of the CS Department.

Students will receive a zero on an exam if any of these activities take place:

1. Student provides exam/quiz questions to other students
2. Student provides exam/quiz solutions to other students
3. Student solicits (asks for) exam/quiz information and/or solutions from any individual or source other than the instructor.

Performing any of these actions will result in a ZERO grade on that exam/quiz, which would fail you in the course.