

# CSC 412: Special Topics in Algorithms Analysis Fall 2015

## Instructor:

Dr. Lori Carter  
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619-849-2342  
RS 214

## Meeting Times and Location:

W,F 11:00-11:55 RS 14

## Office Hours:

Monday 11-12, 1:30-2:45  
Tuesday 9-10, 1:30-4:30

Thursday 9-10, 1:30-2:45  
Friday 9-10

## Text:

McConnell, Jeffrey, Analysis of Algorithms: an active learning approach, 2<sup>nd</sup> Ed. We will cover chapters 1-5 and 7-11 in this class.

## Course Description:

This course presents approaches to designing algorithms and analyzing the computational complexity of algorithms using well-known algorithms as examples. Theoretical issues such as intractability, and categories of P, NP, NP-complete will be explored. Parallel algorithms will be introduced. A background in discrete math and data structures is assumed.

## Course Learning Outcomes:

- Students will be able to apply their technical knowledge to solve problems.
- Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.

## Course Organization:

**Lectures:** Used to augment reading. Slides will be posted on Canvas.

**Homework/Homework Quizzes:** Algorithm analysis and design is best learned through discussion. Please feel free to work on homework problems in groups. Homework will be graded in class and grades will be based on having your homework finished at the beginning of class on the due date (1/2 of the grade), and on a quiz that will be administered after the homework is graded (1/2 of the grade). An exceptional explanation of a homework problem could exempt you from the quiz for that day. While **late homework is not accepted, and quizzes cannot be made up**, each student will be allowed to drop 1 homework/quiz grade.

Chpt	due date	Chpt	due date
1,2	Sept. 16	8	Oct. 28
3,4	Oct. 2	10	Nov. 6
5,7	Oct. 16	11	Nov. 18
		9	Dec. 11

**Exams:** Two midterm exams will be given in class. Students missing an exam for a school function may arrange to take the exam in advance. Missing an exam for other reasons, short of an officially documented emergency may result in a grade of 0. Material covered may include lectures, reading, homework or labs. Exams are currently scheduled for **October 7 and November 20**.

**Labs and in-class work:** Unless otherwise indicated, lab projects and in-class work will be completed individually. Discussion of assignments is allowed, however, each individual must turn in his/her own work. Allowing someone access to your program file is completely unacceptable. Grading will be by demonstration, oral questioning and lab write-ups.

**Final Exam:** Cumulative exam covering lectures, homework and reading. The Final is scheduled for **Monday at 10:30**

**Grading:**

Exams: 40%  
 Homework, classwork, and labs: 35%  
 Final: 25%

Final grades will be determined as follows:

100-93%	A	80-82%	B-	67-69%	D+
90-92%	A-	77-79%	C+	63-66%	D
87-89%	B+	73-76%	C	60-62%	D-
83-86%	B	70-72%	C-	0-59%	F

Assignments	Total Course Hours
Reading and Homework	40
Going over homework	7
Lectures	20
Written Exams/ Quizzes	8
<b>TOTAL</b>	<b>75</b>

**Attendance:**

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work, quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so. Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to the student. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class\\_Attendance](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class_Attendance)

**Class Enrollment:**

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

### **Academic Accommodations:**

While all students are expected to meet the minimum academic standards for completion of their courses as established by the instructors, students with special needs may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center contacts the student's instructors and provides written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities. For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Accommodations](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Accommodations)

**Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.**

### **Academic Honesty:**

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. The details of PLNU's meaning of each of these words can be found in the PLNU catalog at:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)

A student remains responsible for the academic honesty of work submitted in PLNU courses and the consequences of academic dishonesty beyond receipt of the final grade in the class and beyond the awarding of the diploma. Ignorance of these catalog policies will not be considered a valid excuse or defense. Students may not withdraw from a course as a response to a consequence.

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty ([http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)).

### **Final Exam: Date and Time**

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student.

### **Copyright Protected Materials**

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.