Syllabus

CSE361 – Design and Analysis of Algorithms
T, R: 1:00 – 2:47 (EC 281)

REQUIRED TEXTS:
Michael T. Goodrich, Roberto Tamassia, Algorithm Design and Applications, ISBN : 978-1-118-33591-8, ©2015 Wiley.

COURSE WEB SITE: HTTP://MOODLE.OAKLAND.EDU/

Catalog Description
Computer algorithms, their design and analysis. Strategies constructing algorithmic solutions, including divide-and- conquer, dynamic programming and greedy algorithms. Development of algorithms for parallel and distributed architectures. Computational complexity as it pertains to time and space is used to evaluate the algorithms. A general overview of complexity classes is given. Offered fall and winter. Identical with APM 367.

Prerequisite(s): CSE 231, APM 263, and major standing in CS.

Objectives:

- Algorithmic Analysis – Space and Time Complexity
- Core Data Structures – Queues, Stacks, Trees, Search Trees, Priority Queues, Hashing
- Sorting Algorithms – Mergesort, Heapsort, Quicksort
- Graph Algorithms – Searching, Spanning Trees, Network Flows
- Algorithmic Solutions – Greedy, Dynamic Programming, and Divide and Conquer
- NP Complexity Classes
- Introduction to Parallel Algorithms

Exam   Dates:

- Mid Term: 02/27/18
- Final: April 24, 2018 (12:00pm – 3pm)

Your grade will be based on your homework assignment, midterm examination, assigned presentation(s) and final examination. You are also required to do a paper and make a presentation of the same for the entire class to view online. **Grade Distribution will be as follows:**

Assignments	20%
Homework Presentation	5%
Quizzes	20%
Mid Term Test	15%
Final Examination	20%
Programming Projects	20%

Grades are assigned using the following formula if your score is 60 or higher (97% or higher is 4.0)
GPA = 2.0 + 0.053 (Score – 60)
Grades below 60 are considered a failing grade, and a GPA is assigned as follows
GPA = 0.033 * Score

ACADEMIC CONDUCT

You must work independently. If you do work with another classmate, it is your responsibility to let me know BEFORE your homework is submitted. I encourage you to work together. However, it is important to let me know if you collaborate with other student(s). Your grade will not be affected if I am informed *prior to, or at the time of submission of your homework.* The manner in which you inform me will simply be by making an annotation in your homework submission. This rule also applies if you receive help from someone outside of our class.

Exams: During an in-class test **you must bring picture identification**.

The "Academic Conduct Policy" can be found in your student handbook, at http://www.oakland.edu/handbook/ under Code of Student Conduct. Students suspected of cheating will be referred to the Academic Conduct Committee according to the "Academic Conduct Policy". Any student found guilty of cheating by that committee will receive a 0.0 grade in the course.

Using Outside Code: You must properly reference any code that you obtained from an outside source, including citing the web site used for any code snippets used.

POLICIES

Course Communication

All course announcements will be made through Moodle, and will be delivered to your University email account.

Homework - Assignments be turned in digitally in Moodle unless otherwise specified.

Attendance/In class exercises

While attendance is not taken for this class, many lectures will be followed by in class exercises that will be graded.

Disruptions

Please refrain from using your mobile devices (cell phones, tablets, watches, etc.) while the class is in session. If you are found to violate this policy or are otherwise being disruptive to the class, you may be asked to leave.

CONTACT INFORMATION

Prof. Gautam B. Singh
Office: 520 Engineering Center
Email: singh@oakland.edu
Phone: (248) 370-2129

Office Hours: Tuesdays, 3:00-4:00pm
One on One Meetings: By appointment