Course Syllabus

CS 6363.006 Design and analysis of Computer Algorithms; Fall 2015; TR 8:30-9:45 AM; ECSS 2.410;
http://www.utdallas.edu/~rbk/teach/2015f/6363.html

Professor Contact Information
Balaji Raghavachari; (972) 883-2136; rbk@utdallas.edu; ECSS 4.225;
Office hours: Tue/Thu 9:45-10:30 AM.

Course Pre-requisites, Co-requisites, and/or Other Restrictions
CS 5343 or equivalent (Data structures and algorithms): Analysis of algorithms. Stacks, queues, and trees,
including B-trees. Heaps, hashing, and advanced sorting techniques. Disjoint sets and graphs.

Course Description
Topics: The study of efficient algorithms for various computational problems. Algorithm design techniques.
Sorting and manipulation of data structures, graphs, matrix multiplication, and pattern matching. Complexity of
algorithms, lower bounds, NP-Completeness.

Student Learning Objectives/Outcomes
Study efficient algorithms for a number of fundamental problems, learn techniques for designing algorithms,
prove correctness and analyze running times.
1. Ability to understand asymptotic notations, recurrences, algorithm analysis
2. Ability to understand divide and conquer algorithms
3. Ability to understand greedy algorithms
4. Ability to understand dynamic programming algorithms
5. Ability to understand graph algorithms, flow networks
6. Ability to understand NP-Completeness

Required Textbooks and Materials

Assignments & Academic Calendar
Mid-term Exam: 8:30-9:45 AM, Oct 8 (Thu); Final exam as scheduled by the registrar (Dec 11-17).

Grading Policy:
A grade: 90% or more in homeworks and projects, 80% or more in exams, 3 or more excellence credits
B grade: 80% or more in homeworks and projects, 70% or more in exams
C grade: 60% or more in homeworks, projects, and exams
Excellence credits awarded for excellent work in exams.

Course & Instructor Policies
• Homework assignments and programming projects can be done in groups. Form groups of 1-3 students.
  Assignments can be written or typed, and submitted in class or on elearning. No late submissions will
  be accepted. Solutions copied from other students, internet, instructor's manual, etc. will be given zero
  credit and referred to the Dean of Students for disciplinary action. Projects must be submitted on
  elearning, as zip or rar archives. All submissions on elearning can be revised before the deadline.
• Regular class attendance and participation is expected and is the responsibility of each individual. There
  is a strong correlation between regular class attendance and good performance. If a student should elect
  not to attend a class, (s)he is responsible for any handouts, announcements, reading material and
  contents of missed lectures.

See also UTD's policies at http://go.utdallas.edu/syllabus-policies