CSI 503 – Algorithms and Data Structures – Fall 2009

Course Policies

Instructor: S. S. Ravi
Office Hours: Mondays 9:30 to 11 AM
                   Thursdays 2 to 3:30 PM
             LI 96D, 442-4278
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Class time: TTh 5:45 to 7:05 PM in SS-133.

Prerequisites: (i) Pass or high fail in the Departmental Proficiency Examination in Discrete Mathematics and (ii) CSI 310 (Data Structures). Students who don’t meet these prerequisites must see Professor Ravi during his office hours.

Teaching Assistant: To be announced.


Course Objective: To familiarize students with some techniques for the design and analysis of efficient algorithms.

Evaluation:

Exam I – Oct. 1, 2009 (Th) : In class – 30%
Exam II – Nov. 3, 2009 (T) : In class – 30%
Exam III – Dec. 15, 2009 (T) : 5:45 to 7:05 PM – 30%
Homework (best 5 out of 6) – 10%

Examinations: As shown above, there will be two in-class examinations and a final exam. Each of these examinations will have a duration of 80 minutes. These are closed book examinations except that you are allowed to bring one sheet of 8.5” × 11” paper with written material on both sides of the paper. Other details about the exams will be announced later. Missing any of the exams will result in an automatic E grade for the course.

Homework: Six sets of equally weighted homework problems will be given during the course. You will have about a week for each set. Homeworks will be due at the beginning of class on the due date. These homeworks will be graded and we will use the best five of your scores in the six homeworks to determine the numerical grade for the homework. There will be no make-ups for homeworks.
The problems will consist of thought exercises. A number of them will require you to provide rigorous proofs. You are strongly advised to solve the problems by yourself. Solving the problems on your own will provide you with a better understanding of the course material.

**Makeup Exams:** Makeup exams will be given only for valid and verifiable excuses (e.g. a major medical situation). If you are going to miss an exam, you must contact your instructor *ahead of time* and arrange to take a make-up exam at an alternate date/time. In general, a makeup exam will be harder than the regular exam.

**Policy on Cheating:**

1. Cheating in an exam will result in an E grade for the course. Further, the students involved will be referred to the Dean’s office for disciplinary action.

2. Homework problems are meant to be *individual exercises*; you must do these by yourself. Any of the following actions will be considered as cheating.

   (a) A solution which is identical to or nearly identical to the solution submitted by another student in the class.

   (b) A solution which is identical to or nearly identical to the solution provided by the instructor in a previous offering of CSI 503.

   (c) A solution which is identical to or nearly identical to a solution available on the Internet.

Cheating in a homework exercise will result in the following penalty *for all the students involved*.

   (a) The homework in which cheating occurred will be assigned a grade of ZERO.

   (b) Also, the highest score among the other assignments will be changed to ZERO.

Students who cheat in two or more homeworks will receive an E grade for the course. The names of such students will also be forwarded to the Dean’s office for disciplinary action.

**Policy on I grades:** A grade of I will only be given for genuine extenuating circumstances that are beyond your control after the final drop date with a ‘W’ grade (Oct. 22, 2009). Both of the following conditions must be met:

1. At the time when you request an I grade, your work must be in good standing. More precisely, (i) you must have an average score of at least 60% on homework assignments completed up to that point and (ii) your grade(s) in the exam(s) given up to that point must be equivalent to at least a **B-**. Therefore, if you miss any of the exams or have hardly turned in homeworks, you are not eligible for an I grade.

2. Written documentation must be supplied either by you or by the University administration about the extenuating circumstances.
Under no circumstances will the condition for completing an I grade be that the entire course be retaken later without a new registration.

**Attendance:** Although class attendance is not required, you are strongly urged to attend the lectures. The course is mathematical in nature and uses many concepts that you learnt from your Discrete Structures and Data Structures classes. Completing the reading assignments, carefully listening to the lectures and doing the homeworks and additional problems on your own is the best way to understand the material.

If you miss a class, it is your responsibility to find out the material covered in the class. It will **not** be possible for your instructor to conduct makeup classes.

**Other Notes:**

1. The website for the course is [www.albany.edu/~csi503](http://www.albany.edu/~csi503).
2. During their office hours, the instructor and the teaching assistant will be glad to help you with the course material and provide clarifications regarding homework problems.
3. In addition to regular office hours, you can also set up an appointment to meet with your instructor or the teaching assistant. Please call at least a day in advance to set up an appointment.
4. Please don’t hesitate to ask questions in class.

**GOOD LUCK!**
General Instructions For all Homeworks and Examinations

1. For problems requiring proofs, rigorous proofs must be provided. *Informal explanations or examples will not receive any credit.*

2. If you are presenting a proof by induction or a proof by contradiction, say so at the beginning of your proof.

3. If a problem requires you to use a certain method, no credit will be given to solutions not using that method.

4. In proofs by induction:
   
   (a) Clearly state and verify the base case(s).
   (b) Clearly state the inductive hypothesis (what is being assumed).
   (c) Clearly state what you will be proving in the inductive step.
   (d) Provide a proof of the statement given for (c). If the proof involves a sequence of calculations, indicate how the current step was obtained from the previous step.

5. For “prove or disprove” problems:

   (a) The first line of your answer must clearly indicate whether you are trying to prove or disprove the given statement.
   (b) If you are trying to prove the given statement, as indicated before, your proof must be rigorous. To disprove a statement, you must provide a counter-example and explain why it is a counter-example.

6. In problems involving calculations, show your work clearly. No credit will be given if you merely state the answer without showing how you arrived at the answer.

7. If a problem asks you to provide an algorithm, your answer should *not* start with code written in a language such as C, C++ or Java. You should first give a brief overview, conveying the main idea behind the algorithm and any data structures that the algorithm may need. This should be followed by the pseudocode for the algorithm. The pseudocode should be understandable to someone who may not have a detailed understanding of the semantics of programming languages such as C, C++ or Java.