CS 372 Spring 2004

Course Title: Data Structures and Algorithms.
Class Times: TTh 1145–1300. Location: SH 113
Lab Time: W 1130–1220. Location: SH 113

Instructor: Desh Ranjan  
Office: SH 159  
Phone: 646-4600  
e-mail: dranjan@cs.nmsu.edu
Office Hours: TTh 1500–1600 and by appointment.

Teaching Assistant: Abhilash Rao  
Office: SH 143  
Phone: 646-4299  
e-mail: arao@cs.nmsu.edu
Office Hours: MWF 1000–1100 and by appointment

Course Content:

The course has two broad inter-related components – Data Structures and Algorithms. Data structures part basically deals with Abstract Data Types (ADT) and their implementations. We will be primarily interested in different implementations of various ADT’s and their efficiency. In the process, we will learn about various data structures and efficient schemes to implement these data structures. In the Algorithms part we will talk about some basic algorithm design techniques like Brute-Force Search, Divide-and-Conquer, Greedy Scheme and Dynamic Programming. We will also see how abstract data types are useful in designing and implementing elegant and efficient algorithms. Tentatively, the course will cover Chapters 1–4, 6–7, 10–13, and parts of Chapter 15–17 and 22 of the text book. The course will not follow the book literally. Additional material or different examples might be covered in class to explain the concepts, so it is important that you attend all classes. The course assumes that you have some knowledge of, and experience with, programming in an imperative programming language like C. There will be some non-trivial programming assignments in the course.
Course Prerequisites:

CS 272 or equivalent and MATH 330/MATH 301 or equivalent. Please refrain from registering for the course if you haven’t taken the pre-requisite courses.

Evaluation Scheme and Schedule:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Quiz I</td>
<td>10%</td>
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<tr>
<td>Mid-term Exam</td>
<td>20%</td>
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<tr>
<td>Quiz II</td>
<td>10%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>Class Participation</td>
<td>5%</td>
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You should expect to have a homework once every 2 weeks on average. Quiz I will be about 4 weeks into the semester, Mid-term Exam about 8 weeks into the semester, and Quiz II about 12 weeks into the semester. Exact dates for the Quizzes and the Exams will be announced soon. There won’t be any make-up quizzes or exams unless there is a very good reason to have them. All Quizzes and Exams will be in-class and closed book/notes.

Students with Disabilities:

If you have or believe you have a disability, you may wish to self-identify. You can do so by providing documentation to the Office for Services for Students with Disabilities (SSD). Their office is located in Garcia Annex, room 102. The phone number is 646-6840. Appropriate accommodations may then be provided for you.

If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the coordinator of SSD. If you have general questions about the Americans with Disabilities Act (ADA), call Elva Telles, the ADA coordinator at 646-3635.