**Instructor:**

Danny Jugan

Class Room: Atkins 126

Phone: (704) 687-8558

Email: [djugan@uncc.edu](mailto:djugan@uncc.edu)

Class Website: moddle.uncc.edu

Office: Woodward 210B

**Prerequisites**:

ITCS 1212, ITCS 1213, Good Programming and Problem Solving Skills, Projects in C++/Java

**Grading:**

Homework 20%, Programming Assignment(s): 30%, Midterm: 25%, Final: 25%

* 90-100%: A
* 80-90%: B
* 70-80%: C
* 60-70%: D
* <60%: F

**Class structure & recommended materials**

This class focuses on the implementation of various data structures and algorithms. As such, we will spend a large portion of each class analyzing and writing programs. In order for you to get the most out of class time, it is strongly recommended that you bring a laptop or portable computer with an installed Java IDE. You may use whatever IDE you are accustomed to, but the examples from which I will work will be using JGrasp.

**Attendance Policy**

Attendance of all scheduled classes is strongly encouraged, because the material covered in the lectures will not necessarily be restricted to that in the prescribed text. You are responsible for all material covered in class. Attendance for all exams is mandatory. Makeup Exams will not be given except under documented, special circumstances.

**Academic Integrity**

Cheating in any form is subject to disciplinary action (UNCC Catalog, pages 275-278). As far as programming projects are concerned, you are **only** allowed to discuss general concepts and strategies for solving problems. No sharing of modules or parts of programs will be allowed.

**SCHEDULE**

|  |  |  |
| --- | --- | --- |
| **Date** | **Topic** | **Assignments** |
| 1/8 | Syllabus overview and class expectations |  |
| 1/13 | Java Review: Arrays and Reference Aliases | Homework #1 Due 1/14 at 11:55pm |
| 1/15 | Java Review: Inheritance and Polymorphism | Homework #2 Due 1/19 at 11:55pm |
| 1/20 | Wrappers, Try/Catch, Sorting |  |
| 1/22 | Complexity Analysis & Searching |  |
| 1/27, 1/29 | ArrayLists | Homework #3 Due 2/2 at 11:55pm |
| 2/3, 2/5, 2/10 | Linked Lists (Single, Double, Circular) |  |
| 2/12, 2/17 | Stacks & Queues |  |
| 2/19 | Midterm Review |  |
| 2/24 | **Midterm** |  |
| 2/26 | Programming Day – No Class | Program #1 Due 2/26 at 11:55pm |
| 3/10 | Program #1 Solution |  |
| 3/12, 3/17 | Heaps, Priority Queues |  |
| 3/19, 3/24 | Recursion & Binary Trees | Homework #4 Due 3/23 at 11:55pm |
| 3/26 | Programming Day – No Class | Program #2 Due 3/26 at 11:55pm |
| 3/31 | Program #2 Solution |  |
| 4/2 | Binary Search Trees |  |
| 4/7, 4/9 | Graphs |  |
| 4/14, 4/16 | Hash Tables |  |
| 4/21 | Programming Day – No Class | Program #3 Due 4/21 at 11:55pm |
| 4/23 | Program #3 Solution |  |
| 4/28 | Course Review (last day of classes) |  |
| TBA | **Final Exam** |  |