CS208- Computer Science Fundamentals
Learning Module Overview

Course Description

CS 208. COMPUTER SCIENCE FUNDAMENTALS (3). Provides an introduction for Computer Science/Computer Information Systems majors/minors. Includes hardware and software systems, numbering systems, mathematical and logical binary operations, and basic concepts of computer organization. Introduces program development environments.

Course Prerequisites

None

Course Materials

Required:

Regis University, CS208-Computer Science Fundamentals Supplemental Course Materials.

Floppy disk – 3 ½” 1.44 MB. A minimum of one for computer lab exercises.

A C++ Compiler

Recommended Compiler:
  • Full C++ Programming Environment + Win 32 IDE
  • Free UnZipper

First Night Assignments

• Read the following pages in your text, Invitation to Computer Science:
  Chapter 1 (all)
  Chapter 4 (Sec 4.1 – 4.4.2, 4.3.1)
  Ch 5 (all)
• **Read** the following pages in your Supplemental Course Materials:
  Chapter 1, Sections I-IV

• **Write** a three page (third page MUST be at least half full), double-spaced, computer-printed essay which addresses:
  - your definition of a problem;
  - your experiences with problem solving (at work or elsewhere);
  - the steps you took to identify and resolve one or more problems;
  - a description of how you would define a generalized approach to problem solving based on your prior experiences;
  - anything else you’d like to discuss concerning this paper.

  **This paper must be submitted during day 1 to receive credit.**

**Workload**

This course will meet either twice weekly for two hours each time or once a week for four hours. This highly accelerated pace requires students to take a great deal of responsibility for their own learning outcomes. While in class, students are expected to actively participate in discussions, group activities, and structured computer lab activities. Outside of class, students should expect a **MINIMUM of 10-12 hours per week** of study, homework assignments, and/or projects. Some students require **significant** amounts of time programming outside of class. If you are not willing/able to spend the necessary time, please reconsider whether this is the correct time to attend this class.

**Grading Criteria**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework (7 assignments)</td>
<td>35 points (distributed during term)</td>
</tr>
<tr>
<td>Midterm Exam (2 hours)</td>
<td>25 points (includes 5 point lab)</td>
</tr>
<tr>
<td>Final Exam (2 hours)</td>
<td>25 points (includes 5 point lab)</td>
</tr>
<tr>
<td>Graded Computer Labs (2)</td>
<td>10 points (unannounced)</td>
</tr>
<tr>
<td>Instructor Prerogative/Class Participation</td>
<td>5 points</td>
</tr>
<tr>
<td>TOTAL POINTS:</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**NOTE:** You will receive a detailed course syllabus for the course on the first night of class. The facilitator may make changes.
Learning Topics

Learning Topic #1: Course Introduction
Learning Topic #2: Computer Hardware
Learning Topic #3: Number Systems
Learning Topic #4: Codes for Data Representation
Learning Topic #5: Operations on Binary Numbers
Learning Topic #6: Signed Numbers
Learning Topic #7: Floating Point Numbers
Learning Topic #8: System Software
Learning Topic #9: Programming
Learning Topic #10: An Introduction to C++
Learning Topic #11: Assembly Language Concepts
Learning Topic #12: IS Analysis and Design
Learning Topic #13: Files and Databases
Learning Topic #14: Communications/Networks
Learning Topic #15: Ethics, Privacy, and Security