

The University of Alabama in Huntsville
ECE Department
Course Syllabus
CPE 112 01
Fall 2002

- Textbook: Programming and Problem Solving with C++, Nell Dale, Chip Weems, and Mark Headington, Jones and Bartlett Publishers, 2002, Third Edition.
- Recommended: Just Enough UNIX, Paul K. Andersen, McGraw Hill, 2000, 3rd Edition.
- Web Page: <http://www.ece.uah.edu/courses/cpe112>
- Prerequisite: Precalculus
- Instructor: Dr. Rhonda Kay Gaede, Office: EB 211, Phone: 824-6573,
email: gaede@ece.uah.edu
- Office Hours: MW 10:00 AM – 11:00 AM, MW 4:00 PM – 5:00 PM TR 1:00 PM – 2:00 PM,
or by appointment
- Grading:
- | | |
|----------------------------------|------------|
| Hour Exams (4 @ 100 points each) | 400 points |
| Final Exam | 200 points |
| Laboratory Assignments | 400 points |
- Late Projects: Projects will be accepted to one week late for a maximum of 75% of the points for that project. After one week, **no** credit will be given.
- Attendance Policy: Students must attend at least one of two lab sessions each week, with a week being defined as the 1st and 2nd days of lab and every two lab meetings thereafter to receive full credit for a project. Students not attending lab will receive a 10 % deduction on the points they can receive for that assignment. The only exception to this is if a student has already submitted their project for grading.
- Important Dates:
- August 27 – Last day to add a class and file a course repeat
 - September 2 – Labor Day Holiday
 - September 4 – Last day to withdraw with refund
 - September 18 – Last day to change from credit to audit
 - October 3-5 – Fall Break
 - November 1 – Last day to withdraw
 - November 4 – Registration for Spring 2003 begins
 - November 27-29 – Thanksgiving Holidays
 - December 2 – Last M/W class
- Final Exam: December 11 – 6:30 PM – 9:00 PM
- Academic Honesty: Students who cheat will receive a 0 for that assignment and be reported to the University Judicial Officer.
- Helpful Hints:
- Mute your cell phones before you come to class.
 - Be on time for class.
 - You are responsible for any material covered in missed classes.
 - Make use of office hours and help sessions.

Course Outline:

Chapter Topics

- 1 Overview of Programming and Problem Solving - What Is a Programming Language?, What Is a Computer?, Ethics and Responsibilities in The Computing Profession, Problem-Solving Techniques
- 2 C++ Syntax and Semantics, and the Program Development Process - The Elements of C++ Programs, Program Construction, More About Output, Program Entry, Correction, and Execution
- 3 Numeric Types, Expressions, and Output - Overview of C++ Data Types, Numeric Data Types, Declarations for Numeric Types, Simple Arithmetic Expressions, Compound Arithmetic Expressions, Function Calls and Library Functions, Formatting the Output, Additional String Operations
- 4 Program Input and the Software Design Process - Getting Data Into Programs, Interactive Input/Output, Noninteractive Input/Output, File Input and Output, Input Failure, Software Design Methodologies, What Are Objects?, Object-Oriented Design, Functional Decomposition
- 5 Conditions, Logical Expressions, and Selection Control Structures - Flow of Control, Conditions and Logical Expressions, The If Statement, Nested If Statements, Testing the State of an I/O Stream
- 6 Looping - The While Statement, Phases of Loop Execution, Loops Using the While Statement, How to Design Loops, Nested Logic
- 7 Functions - Functional Decomposition with Void Functions, An Overview of User-Defined Functions, Syntax and Semantics of Void Functions, Parameters, Designing Functions
- 8 Scope, Lifetime, and More on Functions - Scope of Identifiers, Lifetime of a Variable, Interface Design, Value-Returning Functions
- 9 Additional Control Structures - The Do-While Statement, The For Statement, The Break and Continue Statements, Guidelines for Choosing a Looping Statement
- 10 Simple Data Types: Built-In and User-Defined - Built-in Simple Types, Additional C++ Operators, Working with Character Data, More on Floating-Point Numbers, User-Defined Simple Types, More on Type Coercion
- 11 Structured Data Types, Data Abstraction, and Classes - Simple Versus Structured Data Types, Records (C++ Structs)
- 12 Arrays - One-Dimensional Arrays, Arrays of Records, Special Kinds of Array Processing, Two-Dimensional Arrays, Processing Two-Dimensional Arrays, Passing Two-Dimensional Arrays as Arguments, Multidimensional Arrays

Tentative Course Schedule:

Date	Day	
8/21	W	Introduction, Chapter 1
8/26	M	Chapter 1
	Lab Day 2	Project #1 Due (15 pts)
8/28	W	Chapter 2
9/2	M	No Class – Labor Day
9/4	W	Chapter 2
	Lab Day 4	Project #2 Due (20 pts)
9/9	M	Chapter 3
9/11	W	Chapter 3
	Lab Day 6	Project #3 Due (30 pts)
9/16	M	Chapter 4
9/18	W	Test I
9/20	F	Project #4 Due (35 pts)
9/23	M	Chapter 4
9/25	W	Chapter 5
9/27	F	Project #5 Due (35 pts)
9/30	M	Chapter 5
10/2	W	Chapter 6
10/7	M	Chapter 6

10/9	W	Test II
10/11	F	Project #6 Due (35 pts)
10/14	M	Chapter 7
10/16	W	Chapter 7
10/18	F	Project #7 Due (35 pts)
10/21	M	Chapter 9
10/23	W	Chapter 9
10/28	M	Chapter 8
10/30	W	Test III
11/1	F	Project #8 Due (65 pts)
11/4	M	Chapter 8
11/6	W	Chapter 11
11/11	M	Chapter 10
11/13	W	Chapter 10
11/15	F	Project #9 Due (65 pts)
11/18	M	Chapter 12
11/20	W	Test IV
11/27	M	Chapter 12
11/29	W	No Class - Thanksgiving
12/2	M	Review
12/3	F	Project #10 Due (65 pts)