The University of Alabama in Huntsville
ECE Department
Course Syllabus
CPE 197 01
Spring 2001

Textbooks: Programming and Problem Solving with C++, Nell Dale, Chip Weems, and Mark Headington, Jones and Bartlett Publishers, 2000, Second Edition.
A Laboratory Course in C++, Nell Dale, Jones and Bartlett Publishers, 2000, Second Edition.

Web Page: http://www.ece.uah.edu/courses/cpe197

Prerequisite: Precalculus

Instructor: Dr. Rhonda Kay Gaede, Office: EB 211, Phone: 824-6573, email: gaede@ece.uah.edu

Office Hours: TR 11:00 AM – 12:00 PM, **Revision W 2:00 PM – 3:00 PM**, or by appointment

Grading:

Hour Exams (4 @ 10% each)	40 %
Final Exam	20 %
Laboratory Assignments	40 %

Important Dates:
January 12 – Last day to add a class
January 15 – Martin Luther King Jr. Holiday
January 22 – Last day to withdraw and receive refund
January 29 – Last day to change from credit to audit
March 5 – Last day to withdraw
March 26-31 – Spring Break
April 19 – Last TR class

Final Exam: April 26 – 8:00 AM – 10:30 AM

Academic Honesty: Students who cheat will receive a 0 for that assignment and be reported to the University Judicial Officer.

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	
1/9	T	Introduction, Chapter 1
1/11	R	Chapter 1
1/16	T	Chapter 2
1/18	R	Chapter 2
1/23	T	Chapter 3
1/25	R	Chapter 3
1/30	T	Chapter 4
2/1	R	Test I
2/6	T	Chapter 4
2/8	R	Chapter 5
2/13	T	Chapter 5
2/15	R	Chapter 6
2/20	T	Chapter 6
2/22	R	Test II
2/27	T	Chapter 7
3/1	R	Chapter 7
3/6	T	Chapter 8
3/8	R	Chapter 8
3/13	T	Chapter 9
3/15	R	Test III
3/20	T	Chapter 9
3/22	R	Chapter 10
3/27	T	No Class – Spring Break
3/29	R	No Class – Spring Break
4/3	T	Chapter 10
4/5	R	Chapter 11
4/10	T	Chapter 12
4/12	R	Test IV
4/17	T	Chapter 12
4/19	R	Review