

CSC111 Weekly Schedule and Chapters to be covered from the Gaddis book

WEEK 1 : Chapter 1: Introduction to Computers and programming

1.1 – 1.7 Students are familiar with these topics from the CSC101 prerequisite.

Chapter 2: Introduction to C++

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- 2.1 The Parts of a C++ Program
 - 2.2 The cout object
 - 2.3 The #include Directive
 - 2.4 Variables, Literals and Assignment Statements
 - 2.5 Identifiers
 - 2.6 Integer Data type
 - 2.7 The char Data Type
 - 2.8 Floating-Point Data Type
 - 2.10 The bool Data Type
 - 2.11 Determining the Size of a Data Type
 - 2.12 More on Variable Assignments and Initialization
 - 2.13 Scope
 - 2.14 Arithmetic Operators
 - 2.15 Comments
 - 2.16 Named Constants
 - 2.17 Programming Style

WEEK 2 : Chapter 3: Expressions and Interactivity

- 3.1 The cin object
- 3.2 Mathematical Expressions
- 3.3 Type Conversion
- 3.4 Overflow and Underflow
- 3.5 Type Casting
- 3.6 Multiple and Combined Assignments
- 3.7 Formatting Output
- 3.8 Working with Characters and string Objects
- 3.9 More Mathematical Library Functions

Chapter 4: Making Decisions

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- 4.1 Relational Operators
 - 4.2 The if Statement
 - 4.3 Expanding the if Statement
 - 4.4 The if/else Statement
 - 4.5 Nested-if Statements

- 4.6 The if/else if Statement
- 4.7 Flags
- 4.8 Logical Operators
- 4.9 Checking Numeric Ranges with Logical Operators
- 4.10 Menus
- 4.11 Validating User Input
- 4.12 Comparing Characters and Strings
- 4.13 The Conditional Operator
- 4.14 The switch Statement

WEEK 3 : Chapter 5: Loops and Files

- 5.1 The Increment and Decrement Operators
- 5.2 Introduction to Loops: The while Loop
- 5.3 Using the while Loop for Input Validation
- 5.4 Counters
- 5.5 The do-while Loop
- 5.6 The for Loop
- 5.7 Keeping a Running Total
- 5.8 Sentinel
- 5.9 Deciding Which Loop to Use
- 5.10 Nested Loops
- 5.11 Using Files for Data Storage

WEEK 4 : Chapter 6: Functions

- 6.1 Modular Programming
- 6.2 Defining and Calling Functions
- 6.3 Function Prototypes
- 6.4 Sending Data into a Function
- 6.5 Passing Data by Value
- 6.7 The return Statement
- 6.8 Returning a Value from a Function
- 6.9 Returning a Boolean Value
- 6.10 Local and Global Variables
- 6.11 Static Local Variables
- 6.12 Default Arguments
- 6.13 Using Reference Variables as Parameters
- 6.14 Overloading Functions
- 6.15 The exit() Function

WEEK 5 : Review & EXAM 1

WEEK 6 : **Chapter 20: Recursion**

- 20.1 Introduction to Recursion
- 20.2 Solving Problems with Recursion

WEEK 7: **Chapter 7: Arrays and Vectors**

- 7.1 Arrays Hold Multiple Values
- 7.2 Accessing Array Elements
- 7.3 No Bounds Checking in C++
- 7.4 The Range-Based for Loop

WEEK 8 : **Chapter 7: Arrays and Vectors**

- 7.5 Processing Array Contents
- 7.6 Using Parallel Arrays
- 7.7 Arrays as Function Arguments
- 7.11 Introduction to the STL vector

WEEK 9 : **Chapter 8: Searching and Sorting Arrays**

- 8.1 Introduction to Search Algorithms
- 8.3 Introduction to Sorting Algorithms

WEEK 10 : REVIEW & EXAM 2

WEEK 11 : **Chapter 9: Pointers**

- 9.1 Getting the Address of a Variable
- 9.2 Pointer Variables
- 9.3 The Relationship Between Arrays and Pointers
- 9.4 Pointer Arithmetic
- 9.5 Initializing Pointers
- 9.6 Comparing Pointers
- 9.7 Pointers as Function parameters
- 9.8 Dynamic Memory Allocation
- 9.9 Returning Pointers from Functions

WEEK 12 : **Chapter 11: Structured Data**

- 11.1 Abstract Data Types
- 11.2 Structures
- 11.3 Accessing Structures Members
- 11.4 Initializing a Structure
- 11.5 Arrays of Structures
- 11.6 Nested Structures
- 11.7 Structures as Function Arguments
- 11.8 Returning a Structure from a Function
- 11.9 Pointers to Structures
- 11.10 When to use . , -> , and *

WEEK 13 : **Chapter 13: Introduction to Classes**

- 13.1 Procedural and Object-Oriented Programming
- 13.2 Introduction to Classes
- 13.3 Defining an Instance of a Class
- 13.4 Why Have Private Members ?
- 13.5 Separating Class Specification from Implementation

WEEK 14 : **Chapter 10: Characters, C-Strings and More about the string Class**

- 10.1 Character Testing
- 10.2 Character Case Conversion
- 10.3 C-Strings
- 10.4 Library Functions for Working with C-Strings
- 10.5 String/Numeric Conversion Functions
- 10.6 More about the C++ string Class

REVIEW for FINAL EXAM

WEEK 15 : **FINAL EXAM**