暨南大學
JINAN UNIVERSITY

0806C303
Programming in C++

Instructor: TBA

Email Address: TBA

Time: December 14, 2026 - January 15, 2027

Office Hours: by appointment

Contact Hours: 60 (50 minutes each)

Credits: 4

Course Description

Covers core programming skills including procedural programming in C++, algorithms, modularity, and abstraction. Out-of-class assignments give the student a chance to tie the concepts together and learn basic programming style, documentation, and development skills necessary for working in a team environment.

Required Textbook(s)

Programming in C++, by Nell Dale and Chip Weems, 5th Edition, 2010.

You will need a computer for this course. The course will contain lab sessions as well as practice coding assignments during lectures.

Prerequisites

0806C220 Introduction to Programming.

Course Goals

- Develop algorithms to solve "computer-solvable" problems. Test algorithms.
- Translate algorithms to C++ programs.
- Debug, run and test C++ "procedural" programs.

- Understand the software development process by using requirements to design, implement and test C++ programs.

Course Outline

Please note that the outline is meant to give an overview of the major concepts in this course. Changes may occur as needed to aid in the student`s development.

Module 1: C++ basics

- Topics:
    - Introduction to computer programming; Programming life cycle
    - c++ program elements with "Hello World" example
    - Input, output
    - Assignment and interactive input: Assignment operators
    - Data types, variables, declarations
    - Arithmetic operations, expressions and precedence
- Assignment: Program 1

Module 2: Branching

- Topics:
    - Relational Expressions
    - if-else statement
    - switch statement
    - nested if statements
- Quiz 1

Module 3: Loops

- Topics:
    - While loop
    - Sentinel controlled loop
    - Count controlled loop
    - End of file controlled loop
    - Do-while loop and for loop
    - Nested loop
- Assignment: Program 2

Module 4: Functions

- Topics:
    - Mathematical library functions and symbolic constants
    - Modularity using unction
    - Activation record
    - Scope of identifiers
    - Function parameters

- Assignment: Program 3

Module 5: Array

- Topics:
    - Array declaration and array index
    - Array element operations
    - Array as function parameters
    - Array based list
    - Parallel array
    - 2-dimensional array

- Assignment: Program 4

Module 6: Pointer

- Topics:
    - pointers
    - dynamic memory allocation
    - pointer and array

- Quiz 2

Module 7: Class

- Topics:
    - Introduction to Object Oriented Programming
    - Encapsulation
    - Class syntax
    - Class scope
    - Constructors
    - Destructor
    - Operator overloading

- Assignment: Program 5

Module 8: Object Oriented Concepts

- Topics:
    - Abstraction
    - Inheritance
    - Polymorphism
- Quiz 3

Module 9: File I/O and Exception

- Topics:
    - File I/O
    - Exception handling
- Quiz 4
- Final Exam

Grading Policy

Final letter grades are determined from your final cumulative score that is computed using the following breakdown:

Gradable Contents	
Programming Assignments	50%
Quizzes	20%
Final Exam	30%
Total	**100%**

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90~100
Good	B	80~89
Satisfactory	C	70~79
Poor	D	60~69
Failed	E	Below 60

Academic Integrity

As members of the Jinan University academic community, students are expected to be honest in all their academic coursework and activities. Academic dishonesty, includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e., misrepresenting as one's own work any work done by another; submitting the same paper, or a substantially similar paper, to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging other students` work within these general definitions. Instructors, however, determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties that range from the lowering of their course grade to awarding a grade of E for the entire course.