

COMPUTER SCIENCE II – CS2133

Syllabus

1. GENERAL INFORMATION:

Instructor name:

Email:

Credit: 4 (3 lecture, 1 lab)

Prerequisites: CS 1113

2. COURSE INFORMATION:

- Course description:

This course surveys topics of C++ programming and introductory data structure concepts. It is intended for computer science majors, minors, and other students with a serious interest in learning C++ programming. The course covers the following topics: program organization, pointers, classes, dynamic object creation and destruction, linked lists, recursion, inheritance, abstract base classes, virtual functions, polymorphism template classes, exception handling, arrays, random file access, asymptotic analysis, abstract data types, stacks, queues, deques, lists, vectors, sequences, priority queues, binary trees, binary search trees, elementary graphs, searching, and sorting. This course satisfies the college science requirement.

- Course objectives:

To provide the knowledge and skill about:

- Reinforce basic programming skills.
- Learn advanced programming techniques.
- Apply programming skills to implement basic data structures.
- Explore basic algorithm analysis techniques.

3. BOOK AND MATERIALS:

- Required textbook:

C++ Primer Plus (6th Edition) (Developer's Library) by Stephen Prata, Addison-Wesley Professional, 2011.

- Other materials:

You will need to be able to use Microsoft Visual Studio, preferably newest version will work fine. The lab computers have this loaded. If you want a personal copy, you have two choices.

4. GRADING PROCEDURES:

Computer-based testing: 30%

Midterm Examinations: 20%

Final Examination: 50%

5. COURSE OUTLINE:

This schedule is tentative and subject to change. Reading is in the textbook specified in the syllabus.

Week	Topic
1	Syllabus review, COURSE REQUIREMENTS, terminology.
2	Classes and Data Abstraction
3	Operator Overloading
4	Inheritance and Composition
5	Exception Handling
6	Recursion
7	Linked Lists
8	Stacks and Queues
9	Binary Tree
10	Complexity Analysis
11	Students present Project
	Review before Final exam

6. COURSE REQUIREMENTS:

- Programming Assignments: Exercises are in corresponding sections of the required book.

- Projects or Team Class Projects: Projects are given by the instructor after finishing a chapter.
- Class attendance/participation: Evaluated by checking in the Attendance Book
- Final Examination: Students are directly tested and automatically marked on computers.

7. ACADEMIC INTEGRITY POLICIES:

- Student may not use Vietnamese language in class, or will be reduced 2% final marks
- Be punctual to come and leave the class.
- Maximum cancellation time per semester is 6 hours per class.

8. COMMENTS AND NOTES:

- Preparation for Class: It is expected that the students read related chapter in textbook and lecture noted before each class. This will help to capture the topics presented and discussed during class hours.
- Use of Class Time: Class time will be used mainly for lectures and discussions. A small part of class hours is used for testing. House works will be discussed on individual basis.
- Class Attendance: Due to the broad range of topics discussed throughout the course and their inter-relationship, it is requested that the students should attend the class regularly.
- Assignment Requirement: Assignments of each session must be submitted by email before the next session begins.

Instructor's Signature