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Hankuk University of Foreign Studies

2020 Summer Session

CPM 101 Introduction to Programming

Course Outline

Term: July 06-August 07,2020

Class Hours: 8:00-9:50 (Monday through Friday)

Course Code: CPM 101

Instructor: Dr. Mahfuza Farooque

Home Institution: Pennsylvania State University

Office Hours: TBA and By Appointment

Email: mff5187@psu.edu

Credit: 4

Class Hours: This course will have 72 class hours, including 40 lecture hours, 10 lecturer office hours, 10-hour TA discussion sessions, 2-hour review sessions, 10-hour extra classes.

Course Description:

The implementation of this course is done in C++. Students will learn how to declare variables and use them within a program using pointer access. Students will write applications by using various functions and also able to create own data type with the help of the C++ Standard Library.

Course Objectives: After this course, students will be able to

1. Map a an appropriately given problem to code
2. Compile and link a C/C++ program
3. Write a sequential set of statements

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4. Write conditional statements

5, Write loops

6. Have a basic understanding of the different data types and the use of pointers

7. Understand the use of functions

8. Output to the screen and to a file

9. Input from keyboard or file

10. Understand and use libraries

11. Arrays

In short, students will be able to

- Develop algorithms and pseudo code,
- Implement simple problems based on developed pseudocodes and
- Test, debug and correct programs

Required Textbooks:

Starting out with C++ from Control Structures through Objects by Tony Gaddis, 9th Edition.

Note: You could also use other online resources

Grading & Evaluation:

•	Attendance	10%
•	Home Work	20%
•	Quiz	25%
•	Midterm:	20%
•	Final Exam	25$

Grading & Evaluation:

Letter grades will be assigned per the following scale which will be strictly followed.

- 90 – 100 %   A
- 80 – 89%   B
- 70 – 79%   C
- 60 – 69%   D
- 0 – 59%   F

Course Schedule:

The course outline is tentative, and it will be modified depending on the pace of the class.

Week1

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Session 1: Introduction to Computers and Programming, Introduction to C++
Session 2: Basic program syntax
Session 3: Data types, declarations, expressions, variables
Session 4: Type conversion, Formatting output, String and Character Objects
   (Quiz1 and HW1)

Week2
Session 1: Conditional Statements
Session 2: Flags, Logical Operators
Session 3: Loops
Session 4: Continue to Loop and Files
   (Quiz2 and HW2)

Week3
Session 1: User-defined functions, standard library functions
Session 2: Functions: Passing Data by Value, Passing reference variables as parameter
Session 3: Overloading Functions, Basic of Arrays
Session 4: Midterm Exam

Week4
Session 1: Continue to Array, Vectors
Session 2: Searching and Sorting Arrays
Session 3: Pointers
Session 4: Characters, C-Strings, and string-class
   (Quiz3 and HW3)

Week5
Session 1: Structured Data
Session 2: Continue to Structure Data, Linked List
Session 3: Stacks and Queues
Session 4: Final Exam