GSET - Programming with Mr. Hill

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Module 0 - Introduction to C++

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- Course Structure

- Course Topics - Learning Objectives

- Anatomy of A Computer

- The C++ Programming Language

- Tutorial 1 - Hello World

Course Structure

Lectures and Assignments

- This programming course is organized into topic based modules. Each module contains a lecture with slides, and a tutorial with instructions and example code.

- The lectures will be held in class, and after each lecture we will work on the tutorials as a group. After completing each tutorial you will write a short summary (README) documenting your program and the work you have done.

- In addition to the tutorials, programming challenges will be assigned throughout the course to test the skills you have acquired. After completing each programming assignment you will write a short report documenting your program and the work you have done.

Course Structure

Exams and Grading

- You will take a midterm and a final exam in class, and each exam will have a paper and programming component.

- Your final grade comes from participation in the tutorials (25%), completion of the programming challenges(25%), as well as the two graded exams (25% + 25%).

- See the published syllabus for the complete course details and policies.

Course Structure

Collaboration and Group Work

- Discussion between peers and the instructors is encouraged for all assignments except during the exams.

- Some assignments may be completed as a group, but some must be completed as individuals. Ask the instructor if you are unsure.

- Sharing of code between students or is <u>not allowed</u> unless the activity is designated as a group assignment by the instructor.

  The Tennessee Technological University academic misconduct policy clearly states that all submitted work must be original and authored by the student(s) submitting the assignment.

Course Topics - Learning Objectives

During this course we are going to learn about structured computer programming and the C++ Language. The following topics will be covered.

- Variables, Expressions, and Assignment

- Basic Input and Output Operations

- Computer Memory and Common Data Structures

- Logic and Selection Statements

- Looping and Iteration

- Introduction to Object Oriented Programming

Anatomy of A Computer

Major Components

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The C++ Programming Language

A Few Questions

- ▶ What is a computer program? What is computer programming?

- ▶ Have you ever learned about programming before? If so what languages did you use, and where did you learn about them? What types of problems did you solve?

- ▶ Have you ever learned about C++? Why is C++ important for scientists and engineers?

    - ▶
    - ▶
    - ▶

Tutorial 1 - Hello World

- ▸ **Overview:** In the first tutorial you are going to choose your programming environment on your computer and write your first program, *Hello World*.

- ▸ **Assignment:** Complete the tutorial in the document *tutorial0 _introduction_ cpp.pdf* on ilearn. You must be able to display a custom message from your program to the the terminal or standard output.

- ▸ **Deliverable:** Write a brief summary of what you accomplished and what you struggled with the most. Include a screen shot or copy of the output of your program.

- ▸ **Next Week:** After completion of Module 0 , you are ready to learn about Variables, Expressions and Assignment.