This is the Learning Outcomes document. It tells what you can expect to learn in the course and provides links to help you understand the concepts to be covered.

Learning Outcomes for COP 1000, Introduction to Programming Concepts

Here is the knowledge, the skills and the abilities that you will be able to employ after completing this course:

1. You will be able to explain number systems and the internal representation of data.

a. You will be able to Know how computers represent data internally

b. You will be able to Define basic storage units such as byte, Kbyte, Mbyte.

c. You will be able to Convert numbers from binary to decimal and from decimal to binary

2. You will be able to solve problems with simple sequence, selection, and repetition statements by using different data type variables, expressions, and flow of control.

a. You will be able to Define variables and constants, select the correct data type for a variable, and describe the relationship between variables and memory.

b. You will be able to Build expressions involving the assignment and the basic mathematical operators (+, -, *, /, %).

c. You will be able to Evaluate logical expressions involving relational and logical operators

d. You will be able to Know when to use a selection and/or a repetition statement

e. You will be able to Solve problems using IF, nested IF statements and the Case structure

f. You will be able to Solve problems using counter-controlled, sentinel and nested loops.

3. You will be able to create and use collections of data, including arrays.

a. You will be able to List the benefits of using collections

b. You will be able to Describe how arrays are represented in memory

c. You will be able to Solve problems using collection and arrays

4. You will be able to create and invoke modules. (method, subprograms, functions)

a. You will be able to List the benefits of decomposing large problems into modules

b. You will be able to Know how to create a module and call the module

c. You will be able to Solve problems using modules