CSC117 Introduction to Programming One

COURSE CODE: CSC117

COURSE TITLE: Introduction to Programming I

CREDITS: 4

COURSE DESCRIPTION: This course requires no previous programming background. Students will learn the use of a programming environment, which includes the program editor, libraries, and compiler. Students will learn the use of basic data types, statements, controls, and structures. A high-level computer programming language will be explored in the context of solving problems. Procedures and functions will be introduced while stressing the concepts of program modularity and top-down design.

PRE-REQUISITES: 490 or higher on the math SAT score or Passing MAT023 and MAT024.

COURSE OVERVIEW: This course uses class discussions and laboratory activity to develop the student's ability to create programs that express well-defined algorithms and data descriptions. Students will be required to study definitions and to review examples before class. Students and the instructor will discuss the role of the various programming language elements and jointly create programs which focus on these concepts. The relationship between the problem description and solution are studied and considered as both algorithmic and data dominated problems. Top-down development of a solution using stepwise refinement will be emphasized. Concepts in program modularity will be stressed as more complex language elements are covered.

COURSE OBJECTIVES:

- Formulate, evaluate, and criticize a problem or program specification.
- Select and use appropriate design strategies to create well structured and efficient programs.
- Develop algorithms and programs by an orderly process of stepwise refinement.
- Apply disciplined techniques for testing programs.
- Develop a methodological approach to problem solving using a computer.

CONTENT (TOPIC) OUTLINE:

- Introduction to the operating system and the programming environment.
- Elementary data types: integers, real, characters, strings, Boolean, variables and constants
- Program maintenance, debugging, testing.
- Statements, expression evaluation, assignment, sequence control, data selection, accumulation, counting, simple statistical measures on data.
- Procedures, functions, and parameters
- Loops; guard conditions, minima/maxima.
- Initialization and manipulation of single and multi-dimensional array data types.

- Introduction and objectives in algorithmic formulation and problem solving.
- Top down and stepwise refinement with program modules.
- Structured Data types and their use in problem formulation and problem solving.
- Programming with VB Class modules

EVALUATION:

- The course is delivered in four consecutive modules, {A, B, C, D}. A module exam will be given after each module is completed. Assignments are set with a due date. A point will be removed for each day the assignment submitted is late. Successfully filling out the review questions in blackboard can raise your average by 5%. module questions are due at the time if the module exam.
- Students are responsible for completing questions on the website (webwork), submitting program assignments via email, and taking an exam at the end of each module.
- For each module, examinations account for 50% of the grade, assigned work 50%.

- 50% • Exams
- 45% • Assignments
- 05% • Review Questions

Academic Dishonesty!

Students are forbidden to collaborate on homework assignments. Any student caught submitting someone else's assignment will automatically receive an F for course. (believe me, you really don't want to do this). See the catalog for UVI policy on academic dishonesty.

REFERENCES

none