Date: October 2005

I. Course Name: Introduction to Programming
Prefix and Number: CSC 115
Credit Hours and Contact Hours: 3 credit hours – 4 contact hours
Course Description:

Introduction to computing serves as a first course for all computer related majors. This course emphasizes the development of languages and software, problem solving, and programming in a structured language. Prerequisite: GST 142 or its equivalent.

II. Course Outcomes and Objectives

Learning Outcomes

Upon completion of the course the participant will be able to:

a) Develop an understanding of the different numbering systems
b) Develop an algorithmic approach to problem solving. Flowchart and document any algorithm.
c) Write programs in a high level computer language to solve these problems defined in part B., above. Enter the programs into the computer, compile and thoroughly test them. Prepare written internal and external documentation that explains the purpose and function of each program and its input and output.

Programming topics:
- syntax
- identifiers and data types
- assignment statements and hierarchy of operations
- input/output statements and format
- block
- methods
- GUI's
- selection: boolean, if-then-else
- looping: count controlled, event controlled

Relationship to Academic Programs and Curriculum

This course is a required course for the CIS, CSC, and Certificate majors. This course is the pre-requisite for the rest of the courses in these programs.

Competencies Addressed in this Course:

Writing
Oral Communication
Reading
Computer Literacy
Problem Solving and Critical Thinking
Ethics and Values

Global Concerns
Professional Competency

III. Methods of Instruction

Types of Course Materials

1. Textbook: A Java programming text to be used for Data Structures I also

Methods of Instruction

1. Lecture
2. Discussions
3. Demonstrations
4. Group programming
5. Programming

Assessment Measures

Activities will emphasize problem solving using the computer - specifically programming the computer. The students should demonstrate proficiency in problem solving and design as well as programming in the Java programming language

Methods of Evaluation

The demonstration of the satisfactory achievement of the above learning outcomes will be the responsibility of the student, facilitated by the instructor. The department maintains a very open attitude and believes each instructor should determine the grading system and evaluation methods that will be used in his/her sections of the course. It is highly recommended that these be communicated to the students the first week of the semester, preferably in writing.

Among the evaluation methods that could be used are exams, quizzes, and programming assignment projects and programs. Any grading system used must be consistent with the College Catalog and Middle States grading procedure. Course policies about attendance, late work, plagiarism, etc. are at the discretion of the instructor. If such policies exist, they must be communicated to the student, preferably in writing.

IV. General Outline of Topics Covered

A. Problem Solving using Programming Concepts

1. Process
2. Analysis and Design

B. Programming using Java

1. Introduction

2. Basic Elements in Java
3 Input/Output
4. Control Structures
5. Loops
6. Graphical User Interface
7. User-Defined Methods