COURSE OUTLINE OF RECORD

Dept., Number	CSC 3360	**Course Title**	Fundamentals of Programming
Semester Hours	3		
Year	2006	**URL (if any):**	

Current Catalog Description:

This course is an introduction to problem-solving methods and algorithm development. It includes program design, coding, debugging and documentation using a high-level language. Laboratory work required. Prerequisites: Admission to the Certificate Program

Textbook:

Standard Version of Starting Out with JAVA 5 *Early Objects* by Tony Gaddis, Scotts/Jones Inc Publisher, 2005.

Course Goals:

To provide computer science students with the skills to:

1. Demonstrate problem solving methods and algorithm development.
2. Write programs in a high level programming language using C++.
3. Demonstrate techniques of good programming style and documentation.
4. Solve problems using the computer.
5. Maintain, test and debug computer programs.

Prerequisites by Topic:

Problem solving skills as exhibited in College Mathematics course (MAT 1311).

Major Topics Covered in the Course (number of weeks):

1. Introduction to Computers and Programming (2 hr)
2. Introduction to JAVA (3 hrs)
3. Introduction to Classes and Objects (5 hrs)
4. Making Decisions (4 hrs)
5. Looping (5 hrs)
6. Arrays (6 hrs)
7. Ethics (1 hr)

Laboratory Projects:

Simple program without control structures (3 weeks)
Program using classes and objects (3 weeks)
Program using Selection (3 weeks)
Program using Loops (3 weeks)
Program using one-dimensional arrays (3 weeks)
Programming projects require written communication skills through algorithm development.

Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms		1	Data Structures		
Software Design			Prog. Languages		2
Comp. Arch.					

Oral and Written Communication:

Typically, every student is required to submit at least one written report (not including exams, tests, quizzes, or commented programs) of six to ten pages and to make one oral presentation of seven minutes

duration. Students typically write summaries of 3-5 computer related articles and present them during lab sessions.

Social and Ethical Issues:

One class period is spent on this topic. Students are assigned relevant topics for papers and are expected to present their findings orally!

Theoretical Content:

Please list the types of theoretical material covered and estimate the time devoted to such coverage.

Problem Analysis:

Problem Solving Techniques. Problem analysis is a vital part of all program development.

Open-Ended Design:

Students are expected to submit algorithms and structure charts with each major programming assignment.