

## COURSE DESCRIPTION

<b>Department and Course Number</b>	CS 190	<b>Course Coordinator</b>	Raj Pamula
<b>Course Title</b>	BASIC Programming	<b>Total Credits</b>	2

### Current Catalog Description:

Introduction to computer programming using BASIC language. Applications will assume a minimal mathematics background.

### Textbook:

Schneider, David L. *An Introduction to Programming Using Visual BASIC 6.0*, 4th Edition, Prentice Hall, 1998.

### References:

Zak, Diane., *Programming with Microsoft Visual Basic*, Course Technology, 2002.

### Course Goals:

At the end of the course, students are able to

- Understand basic programming concepts.
- Divide a problem into its logical set of components.
- Understand the Windows environment.
- Design and code simple problems.

This course is offered as a service course for non CS majors

### Prerequisites by Topic:

One year of high school algebra

### Major Topics Covered in the Course:

- Introduction to Windows.
- Problem solving, Program planning, Pseudo-code.
- Visual BASIC Fundamentals
- Procedures: Sub procedures & Function procedures; modular design.
- Making Decisions, relational operators, IF blocks
- Repetition; loops, DO loops, FOR..NEXT loops
- Arrays, creating & using arrays, Sorting, Searching; an array of controls
- Sequential files, using data files.
- Advanced control structures.

**Laboratory Projects (specify number of weeks on each):**

Students complete lab projects on a selected topic, (1-2 weeks per project)

- Week 1: Creating user interfaces (creating objects, assigning properties)
- Week 2: Creating command buttons and writing simple executable code.
- Week 3: Program design using graphical user interfaces (GUI) with input/output text boxes
- Week 4: Program development using flowcharts and creating GUI.
- Week 5: Modular program development using procedures.
- Week 6: Program development using control statements: *if, do, for*
- Week 7: Program development using arrays.
- Week 8: Program development using files.
- Week 9-10: Project design and development using the main topics covered in the course.

**Estimate Curriculum Category Content (Quarter Hours)**

Area	Service*	Area	Service*
Algorithms	0.25	Data Structures	0.25
Software Design	0.5	Prog. Languages	1.0
Comp. Arch.		Other	

Service\* : This course is offered as a service course for non CS majors.

**Oral and Written Communications:**

Written documentation of software built in labs and homework assignments.

**Social and Ethical Issues:**

No significant component.

**Theoretical Content:**

Logic design and algorithm development.

**Problem Analysis:**

Students learn the basic concepts of the Visual Basic programming language. They learn algorithm development for structured programming, designing, coding, debugging, and documenting programs.

**Solution Design:**

Solution design in this course mostly involves generating pseudo-code and flowcharts for program development. Students also learn how to design a good graphical user interface.