

Introduction to Programming for Non-Programmers Training Course Outline

Course Description:

Are you interested in learning how to program? Do you want to start a career in computer programming and software development? Are you looking for a programming course that will help you get started on learning to program?

This course presents programming skills to the nonprogrammer, allowing someone with a basic familiarity with computers to learn how to program. By the end of the course you will be creating programs to calculate square roots, asking for input from the user and moving graphics objects around the screen. This course hopes to prepare you for continuing your programming skills by moving onto other more traditional programming languages.

Course Objectives:

As a result of taking this programming course, you will be able to:

- Write scripts to manipulate graphics objects on the screen
- Collect input from the user and make decisions based on that input
- Communicate between separately running scripts
- Perform math calculations and do comparisons

Course Prerequisites:

A basic familiarity with computers. While you don't need any programming experience or knowledge, you should feel comfortable around a computer as a user.

Modular Outline:

Module 00: Introduction to Programming for Non-Programmers - Course Introduction

Module 01: Getting Started

- Programming Concepts
- Types of Languages
- What Makes a Good Programmer?
- Demo: Installing the Scratch Environment

Module 02: A Tour of Scratch

- Basic Areas
- Sprites
- How to Build a Scratch Script
- Comments
- Workshop

Module 03: More Scratch Features

- Costumes
- Backgrounds
- Help Features
- 3 Types of Scratch Blocks
- Workshop

Module 04: Problem Solving

- Math, Movement and Puzzle Problems
- Basic Steps in Problem Solving
- Algorithms
- Scratch Cards
- Workshop

Module 05: Variables, Operators and Input

- Creating and Using Variables
- Mathematical Operators
- Asking Questions and Getting Answers
- Using Answers in Control Blocks
- Workshop

Module 06: Threads and Tying It All Together

- Threads
- Broadcasting
- Workshop
- Comparison of Scratch Programs to C
- Review