

# Programming in C#: Data Abstraction and Object Oriented Elements

Featuring Dr. Ira Pohl



C# is a recent initiative of Microsoft and is an essential language component for their .Net initiative. It has elements of C, C++, and Java and promises to replace or interoperate with all of them.

By carefully developing working programs, Dr. Pohl presents key insights into the programming process for C#. Key points are highlighted in examples of working code. The Programming in C# series is an overview and examination of the language that enables the professional programmer to jumpstart their C# learning curve. This course, the second of three, covers data abstraction and object-oriented (OO) elements of C#.

Dr. Ira Pohl is a Professor of Computer Science at the University of California, Santa Cruz. He has over three decades experience as a software methodologist and is the author of over 15 books including, C by Dissection (with Al Kelley), C++ by Dissection, C++ for C Programmers, Java by Dissection (with C. McDowell) and A Book on C, 4th edition (with Al Kelley) and is currently at work on C# by Dissection. He is a fellow of the ACM.

TIME: \_\_\_\_\_

DATE: \_\_\_\_\_

LOCATION: \_\_\_\_\_

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**Learn how to**

- Know the basics of OO and data abstraction using C#
- Be familiar with the wide array of C# native types
- Understand new elements of C# such as the struct-class distinction
- Be able to intelligently evaluate C#'s potential benefits
- Understand OOP methodology as implemented in C# (how to use classes)
- Be familiar with the critical concepts such as the use of C# arrays

**Target Audience**

This course will benefit professional programmers, software designers and project leaders who intend to use C# or will need to interface with C# components.

CEUs or certificate of completion 0.30

Produced by



Program level  
Intermediate

See next page for more information



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## Course Outline

1:30 - 2:25 pm ET Session 1: Introduction

- List and describe the basic data types
- Explain value/reference distinction
- Explain enumeration
- Explain array

2:25 - 2:35 pm ET Break

2:35 - 3:30pm ET Session 2: Arrays -- Special Features

- Explain array as an indexed collection
- List and describe array methods
- Explain foreach and array
- Describe multidimensional arrays

3:30 - 4:05 pm ET Break

4:05 - 5 pm ET Session 3: Functions and Basic Classes

- Explain class layout, the heart of OOP
- Explain inheritance

## Prerequisites

Familiarity with programming is assumed. Experience with the C language is useful, but not required. It is recommended that the participant be familiar with the material presented in part one of this series (Programming in C#: A First Look, broadcast on 2/21/02).