HACKERU

.NET Programming

BT116

56
Academic Hours

.NET Programming

Outline

This C# 5.0 class is designed for people who are new to .NET 5.0. The course highlights the structure of C# 5.0 programs, language syntax, and implementation details. This C# course provides the prerequisite C# language knowledge necessary to begin developing .NET applications.

Target Audience

- Professionals with background in ANY programming language

Content

Module 01
Introduction to the .NET Framework

- The .NET Framework
- The Common Language Runtime
- The Common Type System
- C# Features
- Introduction to namespaces & assemblies

Module 02
The C# 5.0 Language

- Procedures and statements
- Data types
- Declaring variables
- Assignments
- Conversion
- Operators
- Control constructs

Module 03
The .Net. Type System

- Type concepts
- Value and reference types
- Assignment
- The simple types
- The 'null' reference

Module 04
Arrays and Strings

- class Array
- Array initializers
- Multi-dimensional arrays
- Jagged arrays
- class string and its methods

Module 05
Exception handling

- Errors vs. Exceptions
- The 'try' block
- Using 'throw'
- The 'catch' block
- The 'finally' block
- Creating your own exceptions

Module 06
Working with Files

- IO Concepts
- Read from files
- Write to Files
- Working with Directories

Module 07
Structures and Enumerations

- Creating and Using Enumerations
- Creating and Using Structs
- Comparing References to Values

Module 08
Object Oriented Programming in C#

- Classes & Interfaces
- Concept of inheritance
- Extending a simple class
- Polymorphism
- 'Virtual', 'override', 'new' & 'sealed' modifiers
- Abstract , Partial & Static classes
- Abstract methods, properties and indexers
- Polymorphism with interfaces
- Multiple interfaces

Module 09
DNA Architecture

- What is DNA Architecture (3-layers)
- Working with .DLL's (Writing & Consuming)
- DLL's vs. Services

Module 10
Delegates & Events

- Why using delegates?
- Useful design patterns with delegates
- Events

Module 11
Generic & Collections

- Using Collections
- Collections pitfalls
- Creating and Using Generic Types
- Generics Collections
- Defining Generic Interfaces and Understanding Variance
- Using Generic Methods and Delegates

Module 12
Introduction to language-integrated Query (LINQ)

- Introduction to LINQ
- LINQ to Objects
- LINQ to XML
- LINQ to SQL (Concepts)

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Module 13

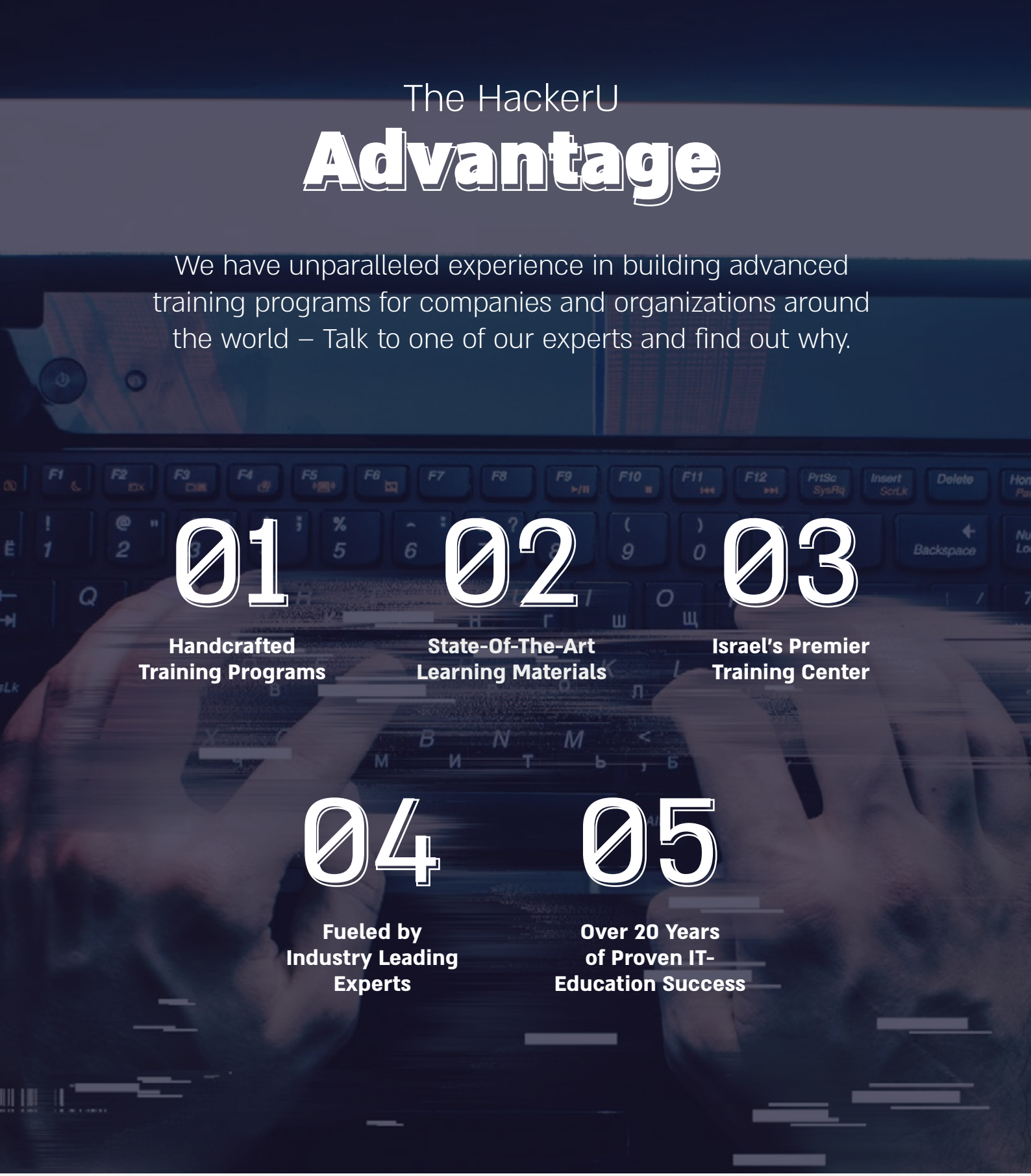
Introduction to Multi-Threaded applications

- Overview of Threading
- Creating Threads
- Passing Data to Threads
- Returning Data from Threads
- Managing Threads
- Problems with Threads
- Synchronizing Threads

Module 14

GUI Programming with WPF

- Introduction to Event Driven Applications
- The GUI Evolution in .NET
- WinForms vs. WPF
- Creating Windows Forms Applications
- Handling Events
- Working with Menus, Toolbars & Status Bars
- Working with User Controls



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02 State-Of-The-Art Learning Materials

03 Israel's Premier Training Center

04 Fueled by Industry Leading Experts

05 Over 20 Years of Proven IT-Education Success

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