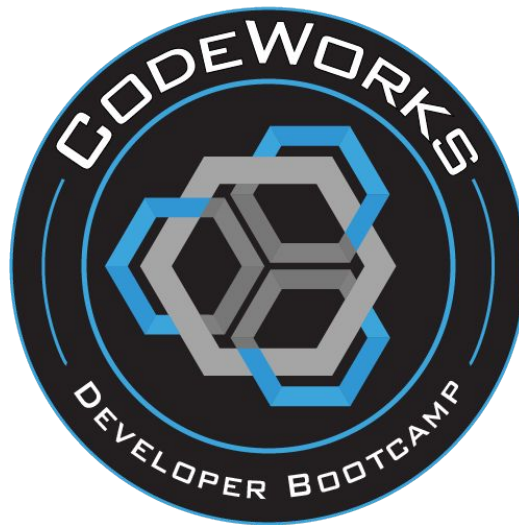


DotNet - 101

Getting Started with C#

What you'll learn

- Build from scratch DotNet Console Applications
- Primitive Types
- Advanced Data Types
- Classes
- Project Architecture
- 4 Check For Understanding Applications
- 3 Major Projects





DotNet - 101

Course Objective

This Course is designed to take you from little to no knowledge in C# to building console applications following industry standard design principles.

Course Description



Welcome to CodeWorks,

We are excited you have chosen CodeWorks Academy as your platform to entering the Developer Community. We look forward to getting to know and teach you about this crazy career that we love.

Are you ready to follow in the footsteps of many great developers before you and enter into the world of writing C# using the Dotnet framework?

This course is intended for students who are looking to step into C# for the first time, and build a solid foundation of understanding, to tackle complex application challenges. We will introduce you to the framework, talk about how to create and manage data, and build several fun applications along the way.

This course is your complete guide to C# 101.

Weekly Outline

*Mon
6 to 9



LIVE INSTRUCTION

Start your week off with live instruction covering the topics of the week, this will be a full 3 hours of lecture so prepare to make lots of notes. This live instruction will often times be carried over into the content for the remainder of the week.

Tue
3 to 4 hrs



SELF-GUIDED LEARNING

On day two students will work from home and have the opportunity to work through online content, in the form of written tutorials and videos presented by an instructor. They will also be responsible to complete the checkpoint(s) for this week

*Wed
6 to 9



GUIDED REVIEW

Students will have the opportunity to work with the instructor on any challenges they faced in the previous 2 days. They will also be provided additional instruction and introduction to the weekly challenge they will work on the following evening.

Thurs
6 to 9



WEEKLY PROJECT

Students will be given a challenge to implement all the things they will have learned from this weeks instruction. Students have the option to complete this challenge off campus or in the lab.

*These sessions may be attended through a remote livestream



Course Breakdown



CODEWORKS

Intro

- Topic Intro
 - Introduction to the course
- Downloads
 - Downloading all the tools
- Setup
 - Setting up Developer Environment
- Testing Setup

Hello World

- Hello World
 - Starting your first Console App
- File Tour
 - Reviewing the files that come in with a new project
- Getting Started
 - Written Review of built content
- Comments and Controls
 - Hotkeys and how to add Documentation in your code

Basic Types

- Naming Conventions
 - Industry Standards for Naming
- Implicit vs Explicit
 - Identifying Variables by Type
- Integers
 - Basics of Ints
- Floats & Decimals
 - Additional number types
- Basic Math
 - Using numbers with Math
- Strings
 - Creating and Joining
- Booleans
 - Basics of True/False

4

Control Flow

- Conditionals
 - If, Else, Else If
- Switches
 - Alternate handling of logic gates
- For Loop
 - Creating repeatable code with loops
- While Loop
 - Maintaining application interactions until user chooses to quit

Progress Evaluation

C1

Number Guess

Users will have chances to guess a random number generated each game

C2

Dice Roller

Console application to Roll a Dice given an input formatted as '3d4'

P1

Rock Paper Scissors

Build the Classic Rock, Paper, Scissors game through console interactions



Advanced Types

- Arrays
 - Create, Editing & Limitations
- Lists
 - Benefits, Adding & Removing
- Dictionaries
 - Keys & Values, Accessing & Manipulation
- Classes
 - What is a Class
 - Defining Classes
 - Properties vs Fields
 - Constructors
 - Methods

Foundations of Program Architecture

- Program Architecture
 - Enforcing separation of concerns
 - Industry standards in project structures
- Using Using
 - Granting access to other portions of code through namespaces and the using statement
- Building The Library Application
 - Constructing a basic library application to enforce architectural standards

Progress Evaluation

C3

Library

Complete guided instruction on building Console Library Application

C4

Ticket Tracker

Build a basic application for tracking tickets in a bug-log

P2

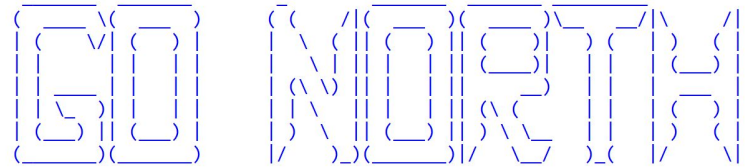
Golf Card

Create an application to track player scores through a game of Golf



Dungeon of Dread

- Input parsing utilizing switch statements
- Navigation between Room Classes using a Linked List
- Data protection using control flow and access modifiers
- List management with inventory for players and rooms



```
Welcome Adventurer to the Dungeon of Dread!  
What is your name? > CodeWorks  
Greetings CodeWorks.  
Before you, is the cave entrance to the dungeon, do you dare to enter?  
(Y/N) >Y_
```



”

There is no elevator to
success, you have to take the
stairs.

- Zig Ziglar

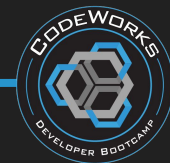


Course Instructor



CODEWORKS

Mark Ohnsman



Mark Ohnsman

Developer, Instructor

About Mark

- Developer
- Bootcamp Instructor
- Microsoft Certified Solutions Associate
- Award Winning VR Developer
- Published Game Developer
- 3d Modeler (Maya)
- Dungeon Master

Skills

Developer

97%

Instructor

98%

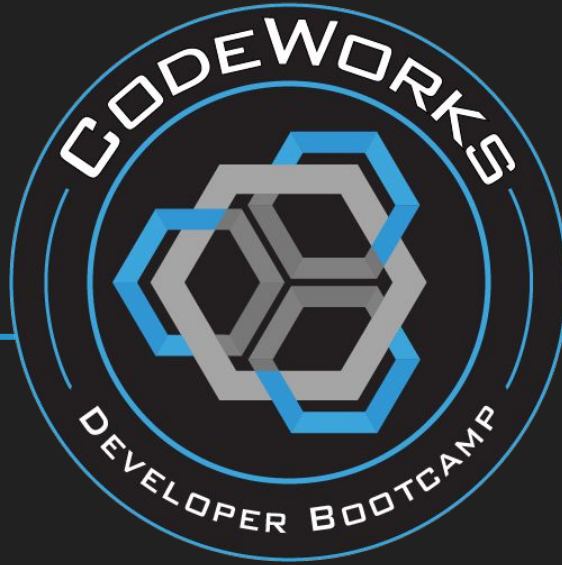
Dad

92%

Dungeon Master

88%

Learn to
Code



Develop Your
Future!

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