Introduction to C#

Instructor
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Office Location
N/A, Phone or virtual
presence only

Office Hours
Tuesday, 7PM-8PM

Course Overview

The goal of this course is to give students a survey of advanced features of the C# language and the .NET framework. Students are assumed to have moderate familiarity with programming concepts such as object oriented design, design patterns, and the basics of the C# language. Strong emphasis will be placed on producing well designed, maintainable, and testable code, as well as developing technical communications skills and team orientation.

Upon completing this course students should be reasonably confident in their ability to design and implement complex programs using the .NET framework.

The course occurs on Thursdays from 6PM to 9PM, and will last 13 weeks beginning on November 7th and ending on January 30th.

Required Text

C# In-Depth 3rd edition, *Jon Skeet*

Course Schedule

Date	Description	Readings
11/07	Lecture 0.1: Intro, review of OOP, Hello .NET	GIT book 1, 2
11/14	Lecture 0.2: Hello .NET, MSIL, types	Skeet 1, 2.2, 2.3
11/21	Lecture 1.0: Constructing complex types	Skeet 7, 8, 13.1, 13.4
11/25	Lecture 1.2: Generics, contravariance, covariance	Skeet 3, 13.3
12/05	Lecture 1.3: Nullable types, boxing, delegates	Skeet 2.1, 4, 5
12/12	Lecture 1.4: Collections, sorting, hashing	
12/19	Lecture 1.5: Dynamic, summary and review	Skeet 14
12/23	Lecture 2.0: Extension methods	Skeet 10
01/02	Lecture 2.1: Lambdas and expression trees, LINQ	Skeet 9
01/09	Lecture 2.2: LINQ advanced topics	
01/16	Lecture 2.3: Reflection, advanced topics	
01/23	Working session for final projects	
01/30	Lecture 3.0: Review, parting words, project demo	

Assignments

Assignment	Description	Assigned	Due	Duration
Assignment 0	Class intro, Git basics	11/07	11/14 @ 6PM	7 days
Assignment 1	Type basics, OOP	11/14	11/24 @ 12PM	10 days
Assignment 2	Complex types, OOP, interface programming	11/25	12/08 @ 12PM	13 days
Assignment 3	Collections, sorting, dynamic	12/12	12/22 @ 12PM	10 days
Assignment 4	Lambdas and LINQ basics	12/23	01/05 @ 12PM	13 days
Assignment 5	Advanced LINQ and reflection	01/09	01/26 @ 12PM	17 days
Final project	Group project, comprehensive	01/02	01/30 @ 6PM	28 days

Additional Reference Material

C# In depth companion website: http://csharpindepth.com

Microsoft Developer Network: http://msdn.microsoft.com

Linq in Action, *Marguerie, Eichert, Wooley*