

# Course description

BPI1223\_00 Programming Environments

## Prerequisites

are: Programming technologies

## Instructor

- István Hegyes, chief of software development, L-Soft Zrt., Nyíregyháza guest
- Sándor Vályi (PhD), University of Nyíregyháza, Department of Mathematics and Informatics  
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- Consultation: at the end of the classes

## Contact hours

Tuesday 12:00–13:30,  
two labors a week, for 14 week,  
first: 20th February 2024

## Topics and weeks

1. Net Framework fundamentals, introduction of Visual Studio, basics of Console class: read, write, conversion
2. C# language primitive types, variables, expressions. Complex types: class, structure. Data members, methods, constructors.
3. Class inheritance. Interfaces.
4. I/O: File handling, filesystem classes, event handling. Exception handling
5. Collections, lists, dictionaries. Generic structures, custom collections.
6. LINQ
7. Database connections
8. Example project 1
9. Project defense part 1
10. Introduction to Windows Form Applications or WPF applications
11. Example project 2
12. Example project 3
13. Project defense part 2
14. Supplementary material

# Requirements

The development and defense of a small project in Visual Studio C#. It consists of two parts.

First part. The requirement is to create a c# project which has to manage a collection of objects of a class. Inheritance should be present in the data model. The program reads the collection from an input text file. Then performs some queries on the collection. [60%]

Second part: the same data model, but on a GUI application, and equipped by data base persistence. [40%]

# Evaluation

Evaluation: from 50%: sufficient 60% medium 70% good 90% excellent

# Resources

c# learning

[book "Programming Basics with C#"](#)

c# learning videos:

[https://www.youtube.com/playlist?list=PL82C6-O4XrHfoN\\_Y4MwGvJz5BntIL0z0D](https://www.youtube.com/playlist?list=PL82C6-O4XrHfoN_Y4MwGvJz5BntIL0z0D)

wpf gui programming

<https://www.youtube.com/watch?v=krxYDsee2cQ&list=PLS1QuIW01RlbTiFrgKi6CO5jVNDBNwHAG>