Course title: Object-Oriented Programming C# 1
Course code: 63048
ECTS credits: 8
Requirements: None
Basic information
Level of studies: Undergraduate applied studies
Year of study: 2
Trimester: 1
Goal: Enabling students to apply the principles of object-oriented programming using the C # programming language and the .NET Framework to create Windows applications in a three-tier architecture style.
Outcome: Students should be able to apply the C # programming language, the .NET Framework platform, and the Microsoft Visual Studio development environment to develop Windows applications with a graphical user interface.
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Contents of the course
Theoretical instruction
1. The .NET Framework and its native types
2. Operator overloading
3. Auto properties, boxing and unboxing
4. IEnumerable, Lists and loops
5. LINQ and lambda expressions
6. Working with database
7. Entity Framework database first approach
8. Windows forms basic controls
9. CRUD operations using user interface
10. Three tier architecture
Practical instruction (Problem solving sessions/Lab work/Practical training)
1. .NET Framework and native types overview
2. Operator overloading examples
3. Boxing and unboxing, indexers using small project examples
4. Examples of working with array types in .NET
5. Collection manipulation examples using LINQ
6. Connecting to a database and executing queries
7. Database operations using object-relational mapper

8. Creating a sample desktop application using windows forms
9. Database data manipulation using desktop application
9. Implementing a three-tier application with a desktop user interface
Textbooks and References
1. Skeet, J., & Simeloff, E. (2014). C# in Depth (p. 616). Manning.
2. Lerman, J. (2010). Programming Entity Framework: Building Data Centric Apps with the ADO. NET Entity Framework. " O'Reilly Media, Inc.".
3. MacDonald, M. (2008). User Interfaces in C#: Windows Forms and Custom Controls. Apress.

Number of active classes (weekly)
Lectures: 4
Practical classes: 3
Other types of classes: 1

Grading (maximum number of points: 100)
Pre-exam obligations: Points
Activities during lectures:
Activities on practical exercises: 0
Seminary work:
Colloquium: 50
Final exam: Points
Written exam: 50
Oral exam:

Lecturer
Milanko Kragović, MSc
Associate
Luka Lukić