Study program: Informatics	
Course title: Programming languages	
Professor/assistant: Zoran D. Mirović	
Type of course: compulsory	
ECTS credits: 6	
Prerequisites: none	

Aims of the course:
Students are introduced to methods and techniques of developing modern software solutions in actual cases (Microsoft .NET Framework and language C#.NET, Windows Forms). Students get acquainted with basic concepts of Microsoft .NET architecture, software solutions architecture, syntax of programming language C#. NET, classes and components belonging to the user interface layer, classes and components of different purposes in the development of software solutions in this environment.

Learning outcomes:
After passing the exam, the student will be able to independently create a software solution using these technologies (Visual Studio, C#.NET, Windows Forms) and demonstrate basic practical and theoretical knowledge about these technologies.

Syllabus:
Theoretical part:
1. Software solutions, significance and purpose, architecture, complexity
2. Basics of OO Methodology, definition and structure of the class
3. Microsoft .NET Framework, *response to the complexity of software development*
4. .NET framework libraries of classes, user interface classes
5. Basics of syntax and application of C # .NET language
6. Processing classes of user interface *Windows Forms,* solutions through examples
7. Processing classes through examples
8. Collections in C # .NET, *basics and usage examples*
9. Examples of simple solutions development, demonstration of acquired knowledge
Practical part:
Practical exercises deal with mentioned topics in detail. Students use the Visual Studios .NET development environment and work on Windows Forms C # .NET projects. During practical training they apply classes and components that belong to the System.Windows.Forms domain thus working on the assigned project.

Literature:
1. Microsoft Visual C# 2012 korak po korak John Sharp. CET, 2013
2. C# 6 I .NetCore 1.0 moderno međuplatformsko programiranje, Mark J. Price, (odabrana poglavlja). Kompjuterska biblioteka, 2016
3. OOP sa Microsoft tehnologijama Visual Basic .NET i Visual C# :NET, Robin A. Reynolds, CET, Beograd 2006.

Total number of active classes: 60	**Theory classes:** 30	**Practical classes:** 30

Teaching methods: Lectures and practical computer exercises

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Grading system (maximum 100 points)

grading scale from 5 to 10: below 51 points – student fails the exam, grade 6 from 51- 60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91- 100 points.
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Pre-exam obligations:	**Points:**	**Final exam:**	**Points:**
Activity during lectures	max 5	Oral exam	50
Practical training	max 5		
Project	max 25		
Term paper	max 15		
Minimum requirement for the final exam	30		