Study program: Informatics	
Course title: Designing Database Applications	
Professor/assistant: Zoran D. Mirović	
Type of course: Compulsory	
ECTS credits: 6	
Prerequisites: Program Languages, Databases	

Aims of the course

The student gets familiar with the basic concept of building *data access* layer of the application on a particular example using ADO.NET and Entity Framework Microsoft .NET technologies. Using simple examples, the student gets acquainted with the basic components, which are in charge of the two-way exchange of data between database server and client application.

Learning outcomes:

After passing the course the student is able to independently create software solutions using these technologies (Visual Studio, Windows Form or ASP.NET, ADO. NET Or Entity Framework, MS Access or MS SQL Server) and demonstrate elementary practical and theoretical knowledge about mentioned technologies.

Syllabus:

Theoretical part:

1. Application architecture, two-way data flow between databases and user interface.
2. ADO.NET components, DataSet and DataProvider set of components
3. Dealing with every component on special examples
4. Entity Framework
5. Data Binding, binding user interface with local data sources
6. Demonstration of the development of simple solutions, application of gained knowledge
7. Presentation of students' term papers on the given/chosen subject

Practical part:

Practical classes deal with given subjects in detail. Students use VisualStudio.NET. Through practice they gain knowledge and complete the assigned project.

Literature:

1. Paul Atkinson, Microsoft SQLServer 2012 programiranje, CET 2013.
2. Jason Lefabre, ADO.NET, Kompjuter biblioteka, 2002.

Total number of active classes: 60	Lectures: 30	Practical classes: 30

Teaching methods: Lectures and practical classes.

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.

Pre-exam obligations:	Points:	Final exam:	Points:
Activity during theoretical lectures	max 5	Oral exam	50
Practical training	max 5		
Written test(s)	max 25		
Term paper	max 15		
Minimum requirement for the final exam	30		