General Information:

Name of Course:	DATABASES _II
Course Code:	PMRRTNB331HA
Semester:	4th
Number of Credits:	4
Allotment of Hours per Week:	2 Lectures+2 practical classes /Week
Evaluation:	Semester Grade
Prerequisites:	**Databases I.**

Instructor: **Dr Etelka SZENDRŐI, associate professor**
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Introduction, Learning Outcomes:

The focus of this course is database programming, that is, the development of applications using a relational database (MS SQL Server 2017) as the primary source of data. We will look at the development of such applications from several perspectives: standalone SQL programs (stored procedures, user functions, and triggers); using ADO.NET and Entity Framework. The course helps the students understand the concept of database transaction and apply it appropriately to an application context. After finishing the course students should be able to write scripts of SQL commands, stored procedures, triggers, functions and should be able to develop programs in C# that create, update and produce data in a database using ADO.NET, Entity Framework.

General Course Description and Main Content:

Students will learn to
1. Create and modify database tables
1. Writing SQL Scripts and Batches
2. Create and modify Stored procedures, triggers
3. Writing User defined functions
4. Transaction processing
    a. Understanding Locks and Concurrency
    b. Setting isolation levels
5. Standards of data connections: ODBC, ADO, OLEDB, ADO.NET.
6. Database programming in C# language using ADO.NET DataReader component, DataSet and Entity Framework (two- and three-tier data access models) and use LINQ to create queries and to modify data.

Methodology:

  – **Lectures**: will give introduction to the basic knowledge of stored procedures, user functions, and ADO.NET services.
  – **Practices**: Students will be able to create databases, manipulate data, create SQL stored procedure, create programs to manipulate data in databases
  – **Grade**: Accumulated knowledge is tested by two exams, one midterm and a final exam.

Schedule:

The rough outline of the schedule is as follows:
Week 1-5: Introducing Database Programming.
  • What is stored procedure? Create Sql script, stored procedures.
  • User Defined functions
  • Triggers
Week 6: Transaction

Week 7: **Midterm Test**
Week 8-9: Programming in C# using ADO.NET
Week 10**: Spring holiday**
Week 11-13:
- ADO.NET Connected model
- ADO.NET Disconnected model

Week 14: LINQ, Programming with Entity Framework
Week 15: **Final Test**

Attendance:
Attendance is required at each lectures and practices. Being present yields max 5% in final grade of the semester. Unjustified absences will affect the rating. The student's final grade will fail, if the student's absence is more than 30% of the total number of lessons. Arriving to the class in time and staying until the end of the scheduled lesson is considered required. Being late of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid justify, such as a doctor's note.

Grading:
The Course grade is determined as a combination of 1 midterm test (50%), a final test (45%) and attendance of lessons (5%).

All exams are closed-book and closed-notes. A student with a proper reason of being absent from the exam must inform and get a permission from the teacher prior to the time of test. Any students who does not take the test at the scheduled time will receive a zero score.

Grading Scale:

Numeric Grade:	5	4	3	2	1
Evaluation in percent:	89%-100%	77%-88%	66%-76%	55%-65%	0-54%

Course grade (exams) correction between: 20-24th of May 2019

Students with Special Needs:
Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

Readings and Reference Materials:

1. Kathi Kellenberger and Scott Shaw, *Beginning T-SQL*, Third Edition, Apress, 2014, ISBN: 978-1-4842-0047-6
2. John Paul Mueller, *Microsoft ADO.NET Entity Framework Step by Step*, O'Reilly Media, Inc.,2013
3. Tim Patrick, *Microsoft® ADO.NET 4 Step by Step*, O'Reilly Media, Inc.,2010

http://microsoftvirtualacademy.com