General Information:

Name of Course: # PROGRAMMING _2

Course Code: PMRRTNB321HA
Semester: 2th
Number of Credits: 4
Allotment of Hours per Week: 2 Lectures+2 practical classes /Week
Evaluation: Exam
Prerequisites: **-Programming 1**

Instructor: **Dr Etelka SZENDRŐI, associate professor**
Office: 7624 Hungary, Pécs, Boszorkány u. 2. Office Nº B-143
E-mail: szendroi@mik.pte.hu
Office Phone: +36 72 503650 /23639

Introduction, Learning Outcomes:
Microsoft's .NET is a revolutionary advance in programming technology that greatly simplifies application development. Part of this technology is the C# language. The purpose of this course is to introduce the students to the fundamental concepts of object-oriented programming and appreciate the complexity of application development. Students will learn the basic concepts of program design, problem solving, and fundamental design techniques for object-oriented and event-driven programs. Program development will incorporate the implementing a solution in a programming language C# .NET, and testing the completed application.

General Course Description and Main Content:
Students will learn to
1. Understand the architecture of .NET Framework.
2. Understand the concepts and technics of object-oriented programming.
3. Create console applications
4. Create GUI (Windows Form) applications.
5. Use data-streams, files, collections in their applications.
6. Understand the fundamental concepts of event-driven programming.
7. Create multi-forms, menu driven applications.

Methodology:
- **Lectures**: will give introduction to the basic knowledge of object-oriented programming, how we can create console and windows form applications
- **Practices**: Students will be able to create appropriate classes and objects to create windows-based applications in computer labs
- **Exams**: Accumulated knowledge is tested by two exams, one midterm and a final exam.

Schedule:

The rough outline of the schedule is as follows:
Week 1-3: Introducing Object-oriented theory.
- Fundamentals of object-oriented theory.
- The concept of Class and object.
- Creating properties, methods.
- Creating classes and objects
- Files and streams

Week 4-6
- Constructors. Passing parameters to constructors, overloading constructors.
- Inheritance.
- Passing parameters to methods.

- Polymorphism
- Arrays, Collections, Lists
- Exception handling

Week 7: **Midterm Exam**
Week 8-10: Event driven developing, GUI controls

- GUI applications. Using Controls.
- Event handling.

Week 11: **Easter Holiday**
Week 12: Menus
Week 13 (**1th of May holiday**)
Week 14-15: Multi-form applications
22th of May: **Final Exam**

Attendance:
Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness 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 excuse, such as a doctor's note.

Grading:
The Course grade is determined as a combination of 1 midterm exam (45%), a final exam (45%) and attendance of lessons and practices (10%).

> All exams are closed-book and closed-notes. A student with a proper excuse of being absent from the examination must inform and get a permission from the teacher prior to the time of examination. Any students who do not take the examination 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: 29-31th of May, 2017

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. Benjamin **Perkins,** Jacob Vibe **Hammer,** Jon D. **Reid,** Beginning Visual C#® 2015 Programming, John Wiley & Sons, Inc, 2016, ISBN: 978-1-119-09668-9
2. Dan **Clark**, Beginning C# Object-Oriented Programming, 2nd edition, Apress, 2013, ISBN-13: 978-1-4302-4935-1, 373 pp.
3. Barbara **Doyle**, C# Programming 3e, From Problem Analysis to Program Design, 2011, Course Technology, Cengage Learning, ISBN-13: 978-0-538-45302-8, 1092 pp
4. Andrew **Troelsen**, Pro C# 5.0 and the .NET 4.5 Framework, Appress, 2012, ISBN-13: 978-1430242338, 1560 pp.
5. http://www.msdn.microsoft.com
6. http://microsoftvirtualacademy.com