

General Information:

Name of Course:	PROGRAMMING 3
Course Code:	IVB306AN
Semester:	3 th
Number of Credits:	5
Allotment of Hours per Week:	2 Lectures+3 practical classes
Evaluation:	Semester Grade
Prerequisites:	-Programming 2

Instructor: **Dr Etelka SZENDRŐI, associate professor**
Office: 7624 Hungary, Pécs, Boszorkány u. 2. Office N° 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:

Brief Syllabus: This lecture and practical based course aims to give informatics students a solid programming knowledge through covering the following topics: the architecture of .NET Framework, the concepts and technics of object-oriented programming, console applications, GUI (Windows Form and WPF) applications, using data-streams, files, collections and ADO.NET technology to retrieve data from databases, the fundamental concepts of event-driven programming, multi-forms and 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

Schedule:

Study period in 15 weeks: September 2 – December 13 (2019)

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 4-5

- Constructors. Passing parameters to constructors, overloading constructors.
- Inheritance.
- Passing parameters to methods.
- Polymorphism
- Arrays, Collections, Lists
- Exception handling

Week 6: **Test 1 (Practice test)**

Week 7: Event driven developing, GUI controls

- GUI applications. Using Controls.
- Event handling.

Week 8: National Holiday (23th of October)

Week 9: **Autumn break (Holiday)**

Week 10: Menus, multiform applications

Week 11-14: LINQ and ADO.NET applications

Week 14: **Test 2 (Theory test)**

Week 15: **Test 3 (Practice test)**

Correction period: December 16-20(2019)

Attendance:

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade. **In case of absence from more than 30% of the total number of lessons will be ground 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.

Evaluation + Grading:

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

Grading will follow the course structure with the following weight:

1. Class participation, class activity 10 %
2. Tests 90 %

Grading Scale:

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

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. Downloadable Lecture slides, Practice Solutions and Tutorials in Neptun LMS System's Meet Street module
2. Benjamin **Perkins**, Jacob Vibe **Hammer**, Jon D. **Reid**, Beginning Visual C#® 2015 Programming, John Wiley & Sons, Inc, 2016, ISBN: 978-1-119-09668-9
3. Dan **Clark**, Beginning C# Object-Oriented Programming, 2nd edition, Apress, 2013, ISBN-13: 978-1-4302-4935-1, 373 pp.
4. 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
5. Andrew **Troelsen**, Pro C# 5.0 and the .NET 4.5 Framework, Apress, 2012, ISBN-13: 978-1430242338, 1560 pp.
6. <http://www.msdn.microsoft.com>
7. <http://microsoftlearn.com>
8. <https://docs.microsoft.com>