

Óbudai University Donát Bánki Faculty of Mechanical and Safety Engineering			Institute of Mechatronics and Vehicle Engineering		
Course name and Neptun-code: Programming languages, BMXPNE4BNE				Credits: 4	
Full time, 2 nd Semester of the Academic year 2020/21.					
Faculties in which the subject is taught: BSc in Mechatronics					
Supervised by: Edit Laufer PhD					
Prerequisites conditions: (Neptun Codes)				Informatics II. BMXI2EHBNE	
Lessons per week:	Theory: 2	Practice (in Auditorium): 0		Lab: 2	Consultation:
Exam type (s,v,f):	midterm				
The Syllabus					
The Programming II. course provides an in-depth knowledge of the fundamental object oriented methodology, as well as the usage of modern technologies including Linq and version control. The practice-focused classes introduce an overhauled knowledge of C# programming through the implementation of modern coding techniques. During the semester the students are required to implement a home project using the OOP principles.					
Schedule					
Weeks	Topics				
1.	Basic concepts and data structures I. (variables, conditional statement, loops, arrays)				
2.	Basic concepts and data structures II. (methods, string, text file)				
3.	Basic, complex and combined programming theorems				
4.	Date and time management, exception handling				
5.	Test I , Home project discussion				
6.	Object-oriented programming basics (abstraction, encapsulation).				
7.	Object arrays				
8.	Holiday				
9.	Properties, static methods				
10.	Complex task				
11.	Holiday				
12.	Test II.				
13.	Home project presentation				
14.	Retake				
Requirements					
Weeks	Tests				
5	Test I. (practice)				
12	Test II. (theory + practice)				
13.	Home project presentation				
14.	Retake (Test I, Test II, Home project)				
The evaluation criterias					
The participation is governed by TVSZ III.23.§ (1)-(4).					
The form of the classes and the tests depends on the current pandemic situation. We will keep you informed about this throughout the semester via Moodle course belonging to the subject.					
Online education: all the classes (theory and lab) will be held via online platform announced in the Moodle course. Attendance at classes is based on the class assignments submitted. If someone miss to submit a class assignment is considered an absence. If students are allowed to enter the building, the tests will be written in person, in groups, to ensure social distancing. If enter to the building is not allowed, an online test will be written, its details will be announced via the Moodle interface.					
Hybrid education: the theory classes are held online, while the laboratory classes are held in person, in groups. Students who attend the lab session online can prove their presence by submitting a class assignment (see online education). The tests are organized with a personal presence (in groups).					
Normal education: both lectures and lab sessions are held in person. Attendance at classes is mandatory.					

All main areas of the course are evaluated by tests. The course is to be considered successfully executed if both tests and project work are successful (at least 40%).

During the semester, the signature requirements can be **replaced** in the following cases: one of the tests failed; illness. In this way, only one of the tests can be retake.

Midterm grade is calculated in the following way: **40% Test I, 40% Test II, 20% project.**

All matters which are not covered in this document, the Study and Examination Rules and the provisions of the Study Regulations, valid at Óbuda University, prevails.

Literature	Obligatory: Moodle Recommended: Albahari, J. & Albahari, B.: C# 7.0 in a Nutshell: The Definitive Reference
-------------------	--