Basic data of the subject	
University	**University of Applied Sciences in Ferizaj**
Academic unit	**Faculty of Engineering and Informatics**
Program	**Industrial Engineering with Informatics**
Title of the subject	**Object Oriented Programming**
Level	**Bachelor**
Course Status	**Obligatory**
Year of studies	**II, Semester IV**
Number of hours per week	**3**
Value of Credits - ECTS	**4**
Time / location	**203**
Course lecturer	
Contact details	
Course Description:	*This course will introduce and enable students to apply object-oriented programming techniques to software. This course also enables students to successfully learn and apply object programming concepts and techniques.*
Objectives of the course:	*The purpose of the course is to equip students with modern knowledge in "thinking and programming object-oriented" and in complex software systems. In addition, students in this course will learn to program objects with C# programming language.* *Requirements to fulfill the purpose of this course are: Programming skills and active student during lectures and exercises.*
Expected learning outcomes:	*After successful completion of this course, the student will be able to:* • *Understand the key concepts of object-oriented programming.* • *Be able to write class code and use objects.* • *To implement inheritance and polymorphism in code.* • *Be able to handle mistakes.* • *Identify the complexity of programming problem-solving methodologies.*
Prerequisites	*The student must have knowledge about the basics of programming and the syntax of C#, or any other programming language.* *They should also be familiar with Microsoft Visual Studio.net.*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**
Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			

Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
Total			**125**

Teaching methodology:	*Lectures and exercises combined with case studies and class discussions, as well as active collaboration in student teams*
Assessment methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Evaluation with two tests and the Project* *2. Form 2: Evaluation of the final exam.* ***Form 1:*** *In the first form of assessment "Assessment with two tests and project" the student is assessed in four activities that are carried out during the lectures:* *1. Test 1 (30%), individual assessment* *2. Test 2 (30%), individual assessment* *3. Class activity (10%), individual assessment* *4. Project (30%), group assessment.* ***Additional clarification:*** *If the student in each activity above reaches the maximum points, then he will be evaluated with 100 points.* *Students who pass the exam according to Form 1 of the assessment, are released from the obligation to take the final exam. Only if the student is not satisfied with the grade achieved according to form 1, then he can undergo the final exam to obtain a higher grade.* ***Form 2:*** *In the second form of evaluation, "Evaluation with the final exam", the student will undergo the exam which will be held after the end of the course lectures and is organized in the exam deadlines, determined by the University Senate.* *Through the final exam, the student can achieve a maximum of 70% of the points from the total of 100 points.*

	The rest of the 30% points must be completed through group work on the Project, an activity carried out during the lectures. *In Test 1, Test 2, and the final exam, the evaluation of the students will be done through an evaluation form, which must be completed individually by the student. The evaluation form will contain objective and subjective questions through which the student's learning outcomes will be evaluated:* • *The objective questions will be of the following types: (1) Multiple choice questions, (2) True/False, (3) Completion, and (4) Composition/Matching; questions that will be used to assess the student's abilities to recall and recognize the concepts and material of the course.* • *The subjective questions will be of the Essay/written task type that will be used to assess the student's understanding and abilities to apply the knowledge gained in the analysis, synthesis, and evaluation of the problem, from the answers prepared by the student to the question of submitting.* *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures* *Project (30%), group assessment: it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out in groups of 2 or 3 students who are obliged to carry out the activity, document it, and present it to the subject professor.* *For the form of realism and documentation of the activity, all members of the group will be evaluated with the same point (20%), while the evaluation of the presentation skills of the activity is individual and includes 10%.* ***Rating:*** *91-100 points – graded 10 (ten)* *81-90 points – graded 9 (nine)* *71-80 points – grade 8 (eight)* *61-70 points – grade 7 (seven)* *51-60 points – grade 6 (six)* *0-50 points – The student repeats the exam.*
The ratio of theory and practice:	*70% theory with exercises and 30% laboratory work.*
Literature	
Basic Literature:	1. *Clark, D., & Sanders, J., Beginning C# object-oriented programming, 2011*
Additional Literature:	1. *Jack Purdum, Beginning Object-Oriented Programming With C#, 2013* 2. *Robert Harle, "Object Oriented Programming", IA*

	NST CS and CST Lent 2009/10 3. *Materiali i propozuar për lexim dhe ushtrime nga Profesori i lëndës.*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introduction to Object Oriented Programming*
Week two:	*Basic classes, static and partial*
Week three:	*Constructors and destructors*
Week four:	*Objects in programming*
Week five:	*Hiding and visibility of classes*
Week six:	*Reference types and value types*
Week seven:	*Data access, attributes, properties, and methods*
Week eight:	*First evaluation*
Week nine:	*Inheritance and polymorphism of classes*
Week ten:	*abstract classes and interfaces*
Week eleven:	*Packages and collection of classes*
Week twelve:	*Exceptions and error handling*
Week thirteen:	*Basics of Graphical User Interface.*
Week fourteen:	*Testing objects oriented programs*
Week fifteen:	*Second evaluation*
Academic policies and rules of conduct	
Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.	