SYLLABUS

Basic data of the course:	
University	**University of Applied Sciences in Ferizaj**
Academic unit	**Faculty of Engineering and Informatics**
Program	**Industrial Engineering with Informatics**
Title of the subject	**Programming**
Level:	**Bachelor**
Course status:	**Obligatory**
Year of studies:	**II, Semester III**
Number of hours per week:	**3**
Value in credit – ECTS:	**5**
Time / location:	**203**
Course teacher:	
Contact details:	
Course description:	*This course will introduce students to the basics of programming and algorithms. It enables students to apply programming techniques to new software projects. Also, this course enables students to successfully train and apply programming and using pseudo-codes to solve various problems and switch them to programming*
Objectives of the course:	*The aim of the course is to equip students with modern knowledge in "thinking and programming", a prerequisite for the basics of programming. In addition, students in this course will learn to program with strings and matrices in the c # programming language. Familiarizing students with algorithms and their presentation forms. Students will gain knowledge of the concept of computer programming, utilizing the C # programming language as the main development tool, using C # algorithms and programming language.* *Requirements for completing the goal of this course are: Programming skills* *Active student during lectures and exercises.*
Expected learning outcomes:	*After completing this course (subject) the student will be able to:* • *Analyze and solve the problem* • *Use c # programming language to solve the problem* • *How to read and "debug" the program in c #* • *C # programming language syntax* • *Develop algorithms and programs in c # programming*

	• *language for other course requirements during study and beyond.*

Student contribution (which should correspond to the student's learning)

Activity	**Hour**	**Day / week**	**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 classroom discussions*
Evaluation methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Evaluation with colloquiums and project* *2. Form 2: Evaluation with the final exam.* *Form 1:* *In the first form of assessment "Assessment with colloquiums and project" the student is assessed in four activities that are carried out during the lectures:* *1. Colloquium 1 (35%), individual assessment* *2. Colloquium 2 (35%), individual assessment* *3. Class activity (10%), individual assessment* *4. Project (20%), group assessment.* *If the student is not satisfied with the assessment achieved according to form 1, then he can undergo the assessment according to form 2 to obtain a higher assessment.* *Form 2:* *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 20% points must be completed by group work in the Project, an activity carried out during the lectures.* *In Colloquium 1, Colloquium 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 5 tasks through which the student's*

	learning outcomes will be evaluated. *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures.* *Project (20%), group assessment: it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out in groups of 3 or 4 students who are obliged to carry out the activity, document and present it to the subject professor.* *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.*
Literature	
Basic literature:	*1. Fundamentals of Computer Programming with C#: The Bulgarian C# Book, Nakov Svetlin, and Veselin Kolev 2013.* *2. Dika A.: Bazat e programimit në C++; Prishtinë; 2005; ISBN: 9951-00-039-8*
Additional literature:	*1. Troelsen, A., & Japikse, P. (2017). Pro C# 7: With. NET and. NET Core. Apress.* *2. Libra online: https://introprogramming.info/english-intro-csharp-book/*

Designed lesson plan :	
Week	**The lecture to be held**
Week one:	*Introduction to C # Programming Language:* *How to write, compile, and execute code in C #*
Week two:	*Program structure:* *Variables and Constants, Data types*
Week three:	Basic programming: Writing a simple program. Reading the entries by Console. Identifiers, Variables and Constants.
Week four:	*Basic programming:* *Data types and their conversion.*
Week five:	*Basic programming:* *Basic mathematical operators, associative expressions and comparison operators. Operators.*
Week six:	*Conditional Statements:* *The role of conditional statements in programming. Algorithms of conditional statements. Boolean Type, Conditions: if, if-else, multi-way if- else and switch. Generating random numbers. Logical*

	operators, switch condition.
Week seven:	Loop: Loop: while, do-while, for. Algorithms and loop programming. Reduce numerical errors.
Week eight:	*First evaluation*
Week nine:	Methods (functions): Method Definition. The main method (main). Ordinary methods. Calling method.
Week ten:	Types of methods (functions): Local and global variables. Parameters of methods. Types of methods based on return values. Overloaded methods. Implementation of math class methods. Factoring and solving.
Week eleven:	Vectors: Determination of vectors. Arithmetic operations. Return string from method. Individual student practical work on the computer writing the program in the c # programming language for different calculations of vector arithmetic operations. Solving some examples.
Week twelve:	Vectors: Searching for arrays. Enumeration of designated members. Finding Designated Members. Sorting of strings. Individual student work. Individual student practical work on the computer by writing the program in the c # programming language for different vector computations. Solving some examples.
Week thirteen:	Matrices: Elementary matrices. Determining matrices. Arithmetic operations. Individual student practical work on the computer by writing the program in the c # programming language for different calculations of arithmetic operations with matrices. Solving some examples.
Week fourteen:	Study visits to a company
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.