SYLLABUS

Basic data of the subject	
Faculty:	**Faculty of Engineering and Informatics**
Title of the subject:	**Applied Software**
Level:	**Bachelor**
Course Status:	**Core**
Year of studies:	**II**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	**Prof. Asst. Dr. Bashkim Çerkini**
Contact details:	**bashkim.cerkini@ushaf.net**
Course Description	*This course will introduce students to the use of MathCad / Matlab software and their application in solving engineering problems.*
Objectives of the course:	*The aim of this course is to provide students with sufficient knowledge of contemporary software used in engineering (Mathcad / Matlab). The right orientation of the student to acquire expert current software (update versions). The material elaborated in this course is a continuation of computer work experience as well as a good basis for facilitating the use of software in subsequent studies*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *know the concepts of working with application software (Mathcad / Matlab).* • *understand the necessary software commands (Mathcad / Matlab).* • *develop the necessary skills to solve mathematical problems using software (Mathcad / Matlab).* • *apply application software to solve various engineering problems.*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**
Lectures	3	15	45
Internship			
Contacts with teacher / consultations	1	5	5
Field exercises			
Midterm, seminars and projects.	2	2	4
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	3	8	24

Time spent on evaluation (tests, quiz and final exam)	1	2	2
Projects and presentations			
Total			**125**

Teaching methodology:	*Lectures and exercises combined with case studies and classroom discussions.*
Assessment methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Assessment with colloquia 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 evaluation* *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 Final Exam, the assessment of students will be done through an assessment 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 - evaluated with a grade of 10 (ten)* *81-90 points - evaluated with a grade of 9 (nine)* *71-80 points - evaluated with a grade of 8 (eight)* *61-70 points - evaluated with grade 7 (seven)* *51-60 points - evaluated with grade 6 (six) 0-50 points - The student repeats the exam.*
Literature	
Basic Literature:	1. *Ahmet Shala, Software-t aplikativë, Prishtinë 2004-2012*

	2. Ahmet Shala: Përmbledhje detyrash të zgjidhura nga Mekanika teknike II, Prishtinë, 2007
Additional Literature:	1. User Guide for MathCad & Matlab 2010

Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	Introduction to MATHCAD Installing MATHCAD, the MATHCAD window Arithmetic actions with scalars
Week two:	Variables and Regions
Week three:	Simple functions
Week four:	Vectors
Week five:	Matrices
Week six:	Solving engineering equations
Week seven:	Test 1
Week eight:	Graphical representations of functions
Week nine:	Derivatives
Week ten:	Integrals
Week eleven:	Introduction to MATLAB Installing MATLAB, the MATLAB window Work in the command window Arithmetic actions with scalars
Week twelve:	Two-dimensional diagrams Full and full command Plot some graphs in the same diagram Formatting a diagram
Week thirteen:	Test 2
Week fourteen:	Study visits to a company
Week fifteen:	Case Summary. Exam preparation

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.