Syllabus

Basic data of the subject	
University/Faculty:	**University of Applied Sciences in Ferizaj/ Faculty of Engineering and Informatics**
Academic unit:	**Industrial Engineering with Informatics**
Title of the subject:	**Application Software**
Level:	**Bachelor**
Course Status:	**Core**
Year of studies:	**II**
Number of hours per week:	**4**
Value of Credits - ECTS:	**6**
Time / location:	**Monday, 9:00-12:00**
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 software in terms of mathematical as well as complex problems: complex numbers, systems of equations, vectors, matrices, graphs of functions, derivatives and integrals, etc. Basic knowledge of Matlab usage and programming with particular emphasis on graphical representation, and scalar arithmetic operations.*
Objectives of the course:	*The aim of the course is to equip students with modern knowledge of modern software that is mostly used in mechanics in general. Proper student orientation to adopt current expert software (update versions). The material discussed in this course is a continuation of computer work experiences as well as a good basis for facilitating the use of software in future studies.* *Requirements for fulfilling the purpose of this course are:* • *Ability to use mathcad and matlab application software.* • *Active student during lectures and exercises.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Use Mathcad software;* • *Use and program in the Matlab program;*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**
Lectures	2	15	30
Theoretical exercises / laboratory	2	15	30
Internship	2	2	4

Contacts with teacher / consultations	1	1	1
Field exercises			
Midterm, seminars and projects.			
Homework			
Self-learning time student (at the library or at home)	4	15	60
Final preparation for the exam	7	3	21
Time spent on evaluation (tests, quiz and final exam)	4	1	4
Projects and presentations	4	1	4
Total			**150**

Teaching methodology:	*Lectures and exercises combined with case studies and classroom discussions.*
Assessment methods:	*First test 45%, Second test 45%, Attendance and Activity 10%.* *Score with Final Exam - 90% of Exam Points, attendance and activity points 10%.* *Total 100%*
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*
The ratio of theory and practice	*Theory: 80%; Practice: 20%*

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.