SYLLABUS

Basic data of the subject	
Faculty:	**Faculty of Engineering and Informatics**
Title of the subject:	**Automatic Adjustment - Control**
Level:	**Bachelor**
Course Status:	**Core**
Year of studies:	**3**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	**Prof. As. Dr. Fakije Zejnullahu**
Contact details:	**Fakije.zejnullahu@ushaf.net**
Course Description	*The course provides students with fundamental knowledge of Automatic Adjustment, tools and their application in the development automation. Students are taught to design a sequential digital circuit, the mathematical approach of dynamic systems and the method of comparison, the application of Laplace transformations to the solution of differential equations, the application of computers to automatic. Examples of applying Automation to Machinery.*
Objectives of the course:	*The Objective of this course is to provide knowledge on the basic principles of automatic adjustment, presentation of methods of analysis and synthesis, as well as elements of automatics and linking theoretical approach with real-automatic systems that surround us.*
Expected learning outcomes:	*After successful completion of this course, student will be able to:* • *recognize the analogy of different physical systems and parts with adequate models typically* • *are capable of forming independent technical system models,* • *be able to be analysed on the basis of technical systems models,* • *choose independent practical problems in the field of automatic adjustment*

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	4	4
Field exercises			
Midterm, seminars and projects.			
Homework			
Self-learning time student (at the library or at home)	3	17	51

Final preparation for the exam	2	12	24
Time spent on evaluation (tests, quiz and final exam)	2	1	2
Projects and presentations			
Total			126

Teaching methodology:	*The course lasts 15 weeks with 3 hours of individual and group weekly lectures and exercises.* *The exercises will be held in the form of individual and group work in which concrete examples will be discussed.* *Active participation is extremely important, so students are encouraged to attend lectures and exercises regularly and to contribute to the discussions that take place in the lectures. Lectures, coaching, individual work, discussions and group work.*
Assessment methods:	*Final Exam: 100%*
Literature	
Basic Literature:	1. *Shaban Shabani, Dirigjimi dhe rregullimi automatik, Universiteti i Prishtinës, Prishtinë, 2002* 2. *Shaban Shabani, Ramë Likaj, Teknika e rregullimit përmbledhje detyrash të zgjidhura, Prishtinë, 1998*
Additional Literature:	1. *H. Peter.J, "Regelungstechnik", Wien, 2000*

Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introduction of syllabus, teaching methods and assessment methods.*
Week two:	*Introduction to automation, automation development, control, adjustment and management* *Automatic conduction and adjustment*
Week three:	*Numerical systems and mathematical operations*
Week four:	*Logical Functions, Bulb Algebra, Logical Elements, Logical Function Formulation and Minimization*
Week five:	*Combined circuits and sequence sequences, RS bistable, T bistable and D bistable*
Week six:	*Revision*
Week seven:	*Mathematical approach of dynamic systems and method of comparison* *System analysis in the field of complex variables and in time interval* *Laplace's transformation and its theorems*
Week eight:	*Applying Laplace to the solution of differential equations* *Frequency band systems analysis* *Transmission sinusoidal function*
Week nine:	*Block diagrams and actions with blocks* *Regulatory facilities and equipment* *Digital control systems*
Week ten:	*Systems stability criteria*

	Modeling linear adjustment systems in the state space
Week eleven:	*Regulatory action analysis* *Synthesis of regulatory actions*
Week twelve:	*Examples of applying automation to Machinery*
Week thirteen:	*The application of automatic computers*
Week fourteen:	*Study visits to enterprises*
Week fifteen:	*Course summary*

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.