SYLLABUS

Basic data of the course:	
Academic unit:	**Faculty of Engineering and Informatics**
Course title:	**Polymer materials processing technique**
Level:	**Bachelor**
Course status:	**Election**
Year of studies:	**III**
Number of hours per week:	**2+2**
Value in credit – ECTS:	**6**
Time / location:	**9.00 – 12.15 / Room 204**
Course teacher:	**Mr.sc.Fatmir Çerkini**
Contact details:	**Office nr.116, tel. 044 219 128, fatmirgerkini@gmail.com, fatmir.gerkini@uni-pr.edu**
Aim of the course:	*Introduction. Construction of polymer materials. Additions (additives). Methods of obtaining polymer materials. Storage and regulation of polymer materials. Processing properties of polymer materials. Methods for controlling polymer materials. Methods of processing polymer materials. Modeling. Extrusion. Extrusion-blowing method. The principle of injection. Foam Polymers Injection Pressure Processing (TSG). Laminating of plastic materials.Impregnation. Flush with liquid compression. Diaphragm fracturing. Vacuum forming. Rotation forming. Stamping. Laminators. Coextrusion process. Injection pressure with internal gas pressure.Stamping with injection. Sintering. Assembly of articles of plastic materials. Welding assembly. Some rapid prototype modeling technologies*
Aim of the course:	*Introducing students to polymer materials used in machinery and other structures. Introducing students to the methods of processing polymer materials. Storage and adjustment of mat.pol. Their processing properties Methods for controlling polymer materials as well as assembling articles from m.p.*
Expected outcomes from learning:	*After completing this course (course) the student will be able to:* *1. Recognize the processing properties of polymer materials,* *2. Know the methods of processing polymer materials and work them.* *3. Know the methods for controlling polymer materials* *4. Know how to assemble polymer materials*

Student contribution (which should correspond to the student's learning)të studentit)			
Activity	**Hour**	**Day / week**	**Total**

Lectures	2	15	30
Theoretical / laboratory exercises	2	15	30
Practical work	-	-	-
Contacts with the teacher / consultations	1	15	15
Field exercises	-	-	-
Tests, seminars	2	2	4
Homework	1	15	15
Student self time study	2	15	30
Final exam preparation	1	15	15
Time spent in evaluation (tests, quizzes, final exam)	1	2	2
Projects, presentations,etc	0.5	15	7.5
Total			**148.5**

Teaching methodology:	*Lectures and exercises combined with case studies and classroom discussions*
Evaluation methods:	*Tests and final exam rated by 100% of the grade.* *The exam consists of questions and answers, open-ended questions, and assignments.* *First evaluation 35%* *Second evaluation 35%* *Exercises 15%* *Attendance 15%* *Final exam: 70%* *----------* *Total: 100%*
Literature	
Basic literature:	*Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere*** *(dispensë), Fakulteti i Shkencave të Aplikuara – Ferizaj,2005*
Additional literature:	1. Teuta Çarçani ,,TEKNOLOGJIA KIMIKE ORGANIKE", Tiranë 1988 2. *Zehev Tadmor,Costas Gogos ,,PRINCIPLES OF POLYMER PROCESSING"-New Jersey,2006* 3. Ing.Miroslav Nadj,,POLIMERNI MATERIJALI", Zagreb 4. Dipl.inž.Bogdan Rapajič,,PRERADA PLASTIČNIH MASA EKSTRUDIRANJEM", Beograd 5. ENCYCLOPEDIA BRITANNICA 2003 6. Kemijski Kombinat ,,CHROMOS" - PLASTIČNE MASE -Katalog, Zagreb

Designed lesson plan :	
Week	**The lecture to be held**
Week one:	*Introduction. Background. Building. Additions (additives).* ***Literature****: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week two:	*Methods of obtaining polymer materials.Storage and regulation of polymer materials.Comparison of plastic masses with metals. Identification of plastic masses.Processing properties of polymer materials.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week three:	*Methods for controlling polymer materials.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week four:	*Methods of processing polymer materials. Modeling. Extrude technology.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week five:	*Extruding pipes and profiles. Calibration of pipes.Extrusion of corrugated pipes.Mistakes, defects in the pipe extrude technology, the cause and elimination of mistakes.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week six:	*Extruding profiles. Production of sheets and plates by extrusion.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week seven: ***First evaluation***	*Extruding-blowing method. The principle of injection.* ***Literatura****: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week eight:	*Injection channel types.Tunnel-shaped injection system. Special distribution channel systems.Shortcomings in the treatment of injection molded thermoplastics and related solutions.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week nine:	*Processing expect the injection of polymers sparkling (TSG).* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week ten:	*Production of hollow bristles by means of inflatable. Extruded-bristle method. Injectable press bridging.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week eleven:	*Plastic laminating. Impregnation. Principle of calendering of plastic materials.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week twelve:	*Flush with liquid compression. Diaphragm fracturing. Vacuum forming. Rotational forming.* ***Literature*** *: Fatmir Çerkini,* ***Teknika e përpunimit të materialeve polimere***
Week thirteen:	*Stamping. Laminators. Coextrusion process.*

	Literature**: Fatmir Çerkini, **Teknika e përpunimit të materialeve polimere
Week fourteen:	*Production of spiral pipes. Welding methods of pipes. Assembly of plastic articles. Welding assembly.* ***Literature**: Fatmir Çerkini, **Teknika e përpunimit të materialeve polimere***
Week fifteen: ***Second evaluation***	*Appendix. Injection of elastomers. Processing of injection moldings. Injection pressure with internal gas pressure. Stamping by injection. Some modeling technology to quickly prototype* ***Literature**: Fatmir Çerkini, **Teknika e përpunimit të materialeve polimere***

Academic policies and rules of conduct
Set etiquette policies in line with USHAF status. *The teacher sets the criteria for regular attendance at lectures and exercises and rules of conduct such as: keeping calm in class, switching off cell phones, entering the room on time, etc.*