

Course Name : The Compilers							
Course Code	Course Type	Regular Semester	Lecture (hours/week)	Seminar (hours/week)	Lab. (hours/week)	Credits	ECTS
CMP 116	B	Spring	3.00	1.00	0.00	3.50	5.00
Lecturer		Artur Koci, PhD					
Assistant		Edlir Spaho, MSc					
Course language		Albanian					
Course level		Bachelor					
Description		Compilers is a course that describes the bases of the compilers, functions and processes. the phases of a compiler and its elements. This course has a broader aspect and will introduce the students with the fundamentals of the compilers, their important role they play on transforming the code from a higher programming language to the code known by the machine.					
Objectives		The aim of this course is to provide knowledge about the structure of the compilers and the techniques used for their designation that includes the lexical analysis, syntaxes analysis and intermediate code generation. The structure and analysis of the syntaxes tree, symbols table and machine stack. Analyzing the software used for creating a compiler etc.					
Core Concepts		Introduction to Compilers Compilers design The stages in which a source program goes through to be translated by the compiler into a language understandable and executable by machines.					
Course Outline							
Week	Topic						
1	Introduction						
2	A Simple Syntax-Directed Translator I						
3	A Simple Syntax-Directed Translator II						
4	Lexical Analysis						
5	Lexical Analysis(Finite Automata, NFA)						
6	Syntax Analysis (DFA)						
7	Review						
8	Midterm						
9	Syntax Analysis (DFA) ys						
10	Syntax Analysis Top-Down Parsing I						
11	Syntax Analysis Top-Down Parsing II						
12	Syntax Analysis Bottom-Up I						
13	Syntax Analysis Bottom-Up II						
14	Syntax Analysis Bottom-Up III						
15	Review						
16	Final Exam						

Prerequisites	The student must attend the course at a minimum rate of 75%.		
Literature	• Alfred V. Aho, Monica S. Lam, Ravi Sethi, Jeffrey D. Ullman, Compilers - Principles, Techniques, and Tools, Second Edition, 2007, Pearson/Addison Wesley		
References			
Course Outcome			
1	Introduction to Compilers		
2	Compilers design		
3	The stages in which a source program goes through to be translated by the compiler into a language understandable and executable by machines.		
Course Evaluation			
In-term Studies		Quantity	Percentage
Midterms		1	30
Quizzes		0	0
Projects		0	0
Term Projects		0	0
Laboratory		0	0
Class Participation		1	10
Total in-term evaluation percent			40
Final exam percent			60
Total			100
ECTS Workload (Based on Student Workload)			
Activities	Quantity	Duration (hours)	Total (hours)
Course duration (Including the exam week: 16x Total hours of the course)	16	4	64
Study hours outside the classroom (Preparation, Practice, etc.)	14	3	42
Duties	0	0	0
Midterms	1	9	9
Final Exam	1	10	10
Other	0	0	0
Total Work Load			125
Total Work Load / 25 (hours)			5.00
ECTS			5.00