

Basic Information

Course name	ALGORITHMS AND PROGRAMMING TECHNIQUES							
Syllabus code	51381207							
Specialization	Electronică, Telecomunicații și Tehnologia Informației							
Credit	5							
Teacher	Vaida Mircea-Florin							
Faculty	Electronics, Telecommunication and Information Technology							
Department	Communication							
Teaching	Semester I			Semester II				
	Lecture	Applications		Lecture	Applications			
	Hours/week			Hours/week				
		S	L	P		S	L	P
					2		2	
Assessment	20% Lab. Evaluation, 40% Final theoretical examination, 40% Final Practical work.							
Prerequisites	Basic Programming notions from first semester							
References	C/C++ References from literature and web							
Course web site	http://mercur.utcluj.ro							

Description

Aims	To develop basic algorithms for engineering applications	
Learning Outcomes	Knowledge/understanding	To learn about: -algorithms and programming techniques -Object Oriented Programming-OOP -different programming abilities for sequential and linked data in C/C++
	Theoretical Skills	-Basic concepts about algorithms and programming techniques -Basic elements about OOP in C/C++ language
	Practical Skills	-Abilities to develop recursive and non-recursive algorithms -Abilities to develop OOP applications in C/C++ -Abilities to develop algorithms using sequential and linked data in C/C++

Recursive programming in C/C++. Recursive and non-recursive programming methods. Sorting and searching algorithms. Introduction in Object Oriented Programming, OOP. Evolution of programming techniques. Classes in C++. Objects definitions and access in C++. Constructors, destructors, methods calling in C++. Friend class and functions in C++. Overloading operators in C++. Inheritance in C++. Virtual classes and methods. Classes and template functions. STL programming. Errors and exceptions in C/C++. Files and I/O operations in C++.

Sequential and linked data in C/C++s of list and trees types.