

Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
INF103	Algorithms And Advanced Programming	2	2	0	2	3	3

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	In this course, the fundamental concepts covered in the first class course "Introduction to Programming" are consolidated. Particularly the topics of pointers, dynamic memory allocation and management, file operations, introduction to algorithm analysis and introduction to data structures are elaborated. In the course practice (laboratory) C programming language and the Linux operating system are used.
Content	<ol style="list-style-type: none">1. Introduction and Reminders2. Advanced Variable Types3. C Preprocessor, Libraries4. Pointers5. Dynamic Memory Management6. Pointers, Arrays and Functions7. String Operations8. Introduction to Data Structures9. Advanced Data Structures10. Algorithm Analysis
References	<ol style="list-style-type: none">1. Course slides and notes2. Reference Books<ul style="list-style-type: none">- 21st Century C, Ben Klemens, O'Reilly Media, 978-1-449-32714-9, 2013- Understanding and Using C Pointers, Richard Reese, O'Reilly Media, 978-1-449-34418-4, 2013

Theory Topics

Week	Weekly Contents
1	Introduction and Reminders
2	Advanced Variable Types
3	C Preprocessor, Libraries
4	Introduction to Pointers
5	Dynamic Memory Management
6	Pointers, Functions, Arrays
7	String Operations
8	Midterm
9	File Operations
10	Introduction to Data Structures
11	Data Structures
12	Introduction to Algorithm Analysis
13	Algorithm Analysis
14	Searching Algorithms