

TABLE OF LEARNING MODULES AND WORKING HOURS

Presented below are four-year courses and learning hours. The duration of each module is presented in two parts, both Physical attendance and tutoring hours. The individual working hours to learn the course are excluded.

Remark: For the CIM and the project, autonomous work is included in the student schedule. Hours of personal or individual work are not included here.

Year 1:					
Total: 600 hours of Physical Attendance hours, 100 H Tutoring and 105 hours of autonomous work					
Semester 1- 290 H Physical Attendance +55H Tutoring + 15H autonomous work			Semester 2- 310 H Physical Attendance + 50 H Tutoring + 90 autonomous work		
30 ETS			30 ETS		
Name of Module	Physical Attendance Hours	Tutoring Hours	Name of Module	Physical Attendance Hours	Tutoring Hours
Basic Tools in Mathematics	50	10	Linear Algebra	50	10
Analysis 1	50	10	Analysis 2	50	10
Algorithmics & Programming 1	50	10	Mechanics	25	5
			Probability 2	25	5
Electricity	25	5	Algorithmics and programmings 2	50	10
Probability 1	25	5			
Micro Economics	25	5	Principal of Accounting and Finance	50	10
Macro Economics	25	5			
CIM *	15	15 (Autonomous work)	CIM	30	30 (autonomous work)5
Productivity	25	5	Project	30	60 (autonomous work)
*CIM: Contemporary Module Issue					

Year 2					
Total 605 Physical Attendance hours , 100 Tutoring hours and 105 autonomous work hours					
Semester 1- 295 H Physical Attendance +50H Tutoring + 75h autonomous work			Semester 2- 310 H Physical Attendance + 50 H Tutoring+90 h autonomous work		
30 ETS			30 ETS		
Name of Module	Physical Attendance Hours	Tutoring Hours	Name of Module	Physical Attendance Hours	Tutoring Hours
Bilinear Algebra	25	5	Series	50	10
Logic Programming	25	5			
Analysis in Rn and PDE	50	10	Statistics	25	5
			Data Analysis	25	5
Object Analysis & Java Programming	50	10	Computer Networks	25	5
			Operating Systems	25	5
Relational Database (deeper)	50	10	Electromagnetism	25	5
			Wave Physics	25	5
Project Management	25	5	Managerial Accounting	25	5
Deeper 2.1	25	5	Deeper 2.2	25	5
CIM	15	15 (autonomous work)	CIM	30	30 (autonomous work)
Project (4)	30	60 (autonomous work)	Project (4)	30	60 (autonomous work)
*CIM: Contemporary Issue Module					

Year 3					
Total 505 Physical Attendance hours and 80 Tutoring hours and 195 autonomous work hours					
Semester 1- 295 H Physical Attendance + 50 H Tutoring + 75h autonomous work			Semester 2- 210 H Physical Attendance + 30 H Tutoring + 120h autonomous work		
30 ETS			30 ETS		
Name of Module	Physical Attendance Hours	Tutoring Hours	Name of Module	Physical Attendance Hours	Tutoring Hours
Complexibility, Decidability and Graph Theory	50	10	Heuristics, Artificial Intelligence, Machine and Deep learning	50	10
Data Mining	25	5	Time series analytics and mining: Stream Analytics & Forecasting Model	50	10
Data Integration (Data Analytics included)	25	5			
Parallel & Distributed Processing	25	5	Deeper 3.2	50	10
Dynamic Web Programming	25	5			
Logistics and Knowledge Representation (Deeper)	25	5	CIM	30	30 autonomous work
Introduction to Information theory	25	5	Project	30	90 autonomous work
Deeper 3.1	50	10	Internship (16 weeks)		
CIM	15	15 (autonomous work)			
Project (4)	30	60 (autonomous work)			

*CIM: Contemporary Issue Module

Notes:

(1) This half-module (30 hours) includes fundamental skills required for a standard manipulation of a computer, that is: handling and storing files, writing and formatting a text or a presentation, working with a spreadsheet, setting up an SQL database, web page publishing...It offers the opportunity to launch a project that can even continue in semester 2.

(2) This module aims at providing basic notions about OS and illustrates these in DOS and Linux including some skills in computer architecture.

(3) Starting from standard first-order logics, the module is an introduction to non-standard logics such as modal logics, fuzzy logics, multi-valued logics used in Artificial Intelligence. Semantic networks can also be part of the module.

(4) One of the projects in year two must be in C or C++

The idea with Deepers would be to propose modules in informatics (at least one for each occurrence of Deeper Z.X) and modules in other disciplines. In doing so, students could get more specific skills in their favorite topics, knowing that their future job would require some emphasis on computer science.