

ECAM STUDY PLAN



MASTER's degree

- Automation Engineering
- Electromechanical Engineering
- Construction Engineering
- Electronics Engineering
- Computer Engineering
- Health Engineering

Formation **balancing theoretical lessons and applications**

→ projects and labs

Formation in **connection with professional world:**

Internships

Master thesis in the industry

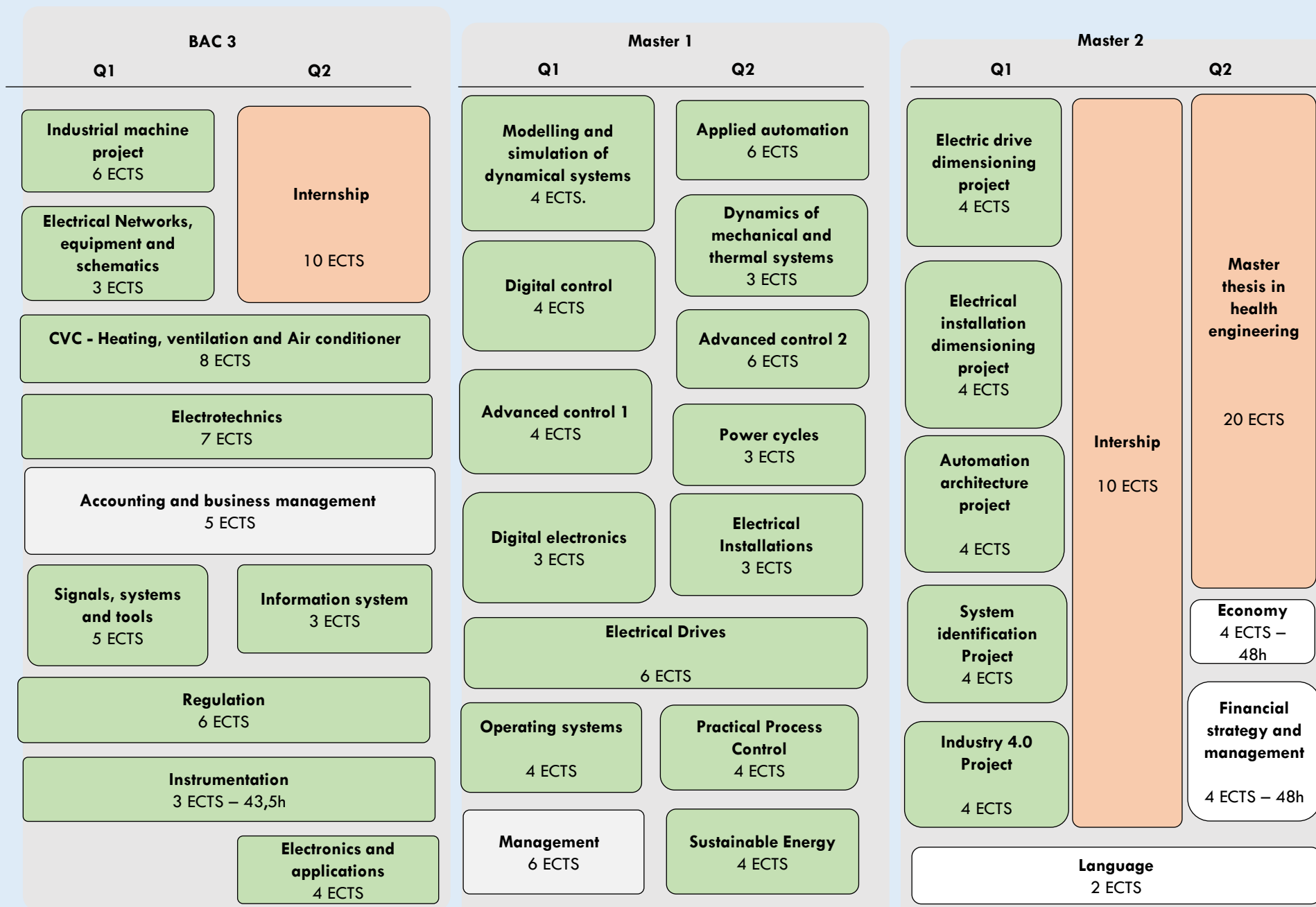
Bachelor's degree

First year : versatility

Second year : general technical knowledge

Third year : Orientation in Construction, Electromechanical, Engineering, Electrical Engineering or Health Engineering

Programme Automation Engineering (starting year 3)



Programme Electromechanical Engineering (starting year 3)

BAC 3		Master 1		Master 2	
Q1	Q2	Q1	Q2	Q1	Q2
Industrial machinery project 7 ECTS	Internship 10 ECTS	Elements of structure and mechanics 5 ECTS.	Advanced maintenance technologies 4 ECTS	Electric drive dimensioning project 4 ECTS	Internship 10 ECTS
Electrical Networks, equipment and schematics 3 ECTS – 35h		Materials and application technology 5 ECTS	Metallic materials and welding 6 ECTS	Electrical installation dimensioning project 4 ECTS	
CVC - Heating, ventilation and Air conditioner 8 ECTS		CNC methods 2 ECTS	Finite elements methods 2 ECTS	Automation architecture project 4 ECTS	
Electrotechnics 7 ECTS		Digital electronics 3 ECTS	Power cycles 5 ECTS	Mechanical project 4 ECTS	
Accounting and business management 5 ECTS		Electrical Drives 4 ECTS	Electrical Installations 3 ECTS	Industry 4.0 project 4 ECTS	
Signals, systems and tools 5 ECTS	Information system 3 ECTS	Operating systems 4 ECTS	Sequential Automation 4 ECTS	Language 2 ECTS	
Regulation 5 ECTS		Management 6 ECTS	Practical Process Control 4 ECTS	Master thesis in health engineering 20 ECTS	
Instrumentation 3 ECTS		Sustainable Energy 4 ECTS	Economy 4 ECTS		
Electronics and applications 4 ECTS				Financial strategy and management 4 ECTS	

Construction Engineering programme (starting year 3)

YEAR 3	
Q1	Q2
reinforced concrete 4 ECTS	Internship 10 ECTS
Metal constructions 4 ECTS– 48h	
Project office 7 ECTS	
Accounting and business management 5 ECTS	
Physics and Building structural work 4 ECTS	Timber construction 4 ECTS
Soil Mechanics 4 ECTS – 53h	Foundations 3 ECTS
Elements of structures 5 ECTS	Site management and techniques 3 ECTS
Topography 4 ECTS	Information system 3 ECTS

Master 1	
Q1	Q2
Design office - buildings 4 ECTS	
Structural complements 7 ECTS	Project - structure challenge 5 ECTS
Pre-stressed concrete 4 ECTS	Numerical modelling of structures 5 ECTS
Prefabricated concrete 3 ECTS	Soil execution procedures 3 ECTS
Design and assembly of structural frames 4 ECTS	Hydraulic 5 ECTS
Geotechnics 3 ECTS	Building physics and special techniques 5 ECTS– 61h
Management 6 ECTS	Civil engineering 5 ECTS

Master 2		
Q1	Q2	
Civil Engineering project 5 ECTS	Internship 10 ECTS	
Innovation 3 ECTS		
Building renovation project 5 ECTS		
Construction project management 5 ECTS		
Modelling and testing 5 ECTS	Master thesis in the industry 20 ECTS	
Language 2 ECTS		
Economy 4 ECTS –		
Financial strategy and management 4 ECTS		

Program Electronics Engineering (starting year 3)

BAC 3		Master 1		Master 2		
Q1	Q2	Q1	Q2	Q1	Q2	
Electronic design 5 ECTS	Internship 10 ECTS	Architecture and software quality 3 ECTS	Microelectronic 4 ECTS	Biodiversity Monitoring Project 4 ECTS	Internship 10 ECTS	
Microcontroller and logic design 6 ECTS	Control theory and application 3 ECTS	Hardware testing process 2 ECTS	System on chip : 5 ECTS	Embedded Security project 5 ECTS		Master thesis in the industry 20 ECTS
Software engineering 1 7 ECTS	Embedded systems 4 ECTS	Advanced PCB design 4 ECTS	Telecommunications 5 ECTS	High Frequency Circuit Design 9 ECTS		
Network and web technologies 4 ECTS	Fundamentals of electrical engineering 3 ECTS	Computer Networks 5 ECTS	Artificial Intelligence 5 ECTS	Ethical Electronics & informatics 3 ECTS		
Accounting and business management 5 ECTS		Computer vision 3 ECTS	Operating Systems 3 ECTS.	Language 2 ECTS		
PCB design 5 ECTS		Management 6 ECTS	Power Electronics 5 ECTS	Economy 4 ECTS –		
Software engineering 2 5 ECTS		Embedded Project 9 ECTS		Financial strategy and management 4 ECTS		
Signals, systems and telecommunications 6 ECTS						

Programme Computer Engineering (starting year 3)

BAC 3		Master 1		Master 2		
Q1	Q2	Q1	Q2	Q1	Q2	
Electronic design 5 ECTS	Internship 10 ECTS – 120h	Architecture and software quality 4 ECTS	Mobile development 3 ECTS	Data center 3 ECTS	Internship 10 ECTS	
Microcontroller and logic design 6 ECTS		Hardware testing processes 2 ECTS	Web Architecture 4 ECTS	Artificial Intelligence project 3 ECTS		Master thesis in the industry 20 ECTS
Software engineering 1 7 ECTS		Database management system 4 ECTS	Network management 5 ECTS	Distributed Systems Project 5 ECTS		
Network and web technologies 4 ECTS		Embedded systems 4 ECTS – 45,5h	GPU computing 6 ECTS	Artificial Intelligence 6 ECTS		
Accounting et business management 5 ECTS		Management 6 ECTS	Operating Systems 3 ECTS	Computer security 4 ECTS		
PCB design 5 ECTS	Fundamentals of electrical engineering 3 ECTS	Computer Networks 5 ECTS	System on chip 3 ECTS	Ethical Electronics & informatics 3 ECTS	Economy 4 ECTS – 48h	
Software engineering 2 3 ECTS	Embedded Project 9 ECTS			Language 2 ECTS	Financial strategy and management 4 ECTS – 48h	
Signals, systems and telecommunications 6 ECTS						

Programme Health Engineering (starting year 3)

BAC 3		Master 1		Master 2	
Q1	Q2	Q1	Q2	Q1	Q2
Human anatomy and physiology 5 ECTS	Internship 10 ECTS	Internship 10 ECTS	Project medical devices #1 10 ECTS	Project medical device #2 7 ECTS	Internship 10 ECTS
Biomaterials 5 ECTS					
Scientific research methods 3 ECTS		Prototyping of medical devices : mechanics 4 ECTS	Medical robotics 5 ECTS	e-Health systems 4 ECTS – 48h	
Accounting et business manag. 5 ECTS – 66h					
Biomechanics 5 ECTS	Mechatronics 5 ECTS	Medical imaging and artificial intelligence 5 ECTS 8h	Prototyping of medical devices : electronics and IT 5 ECTS	Master thesis in the industry 20 ECTS	
Machine design 5 ECTS	Control theory & applications 3 ECTS				Management 4 ECTS
Signals, systems & tools 4 ECTS	Information system 3 ECTS	Financial strategy and management 4 ECTS – 48h			
Digital Electronics 3 ECTS	Electronics and applications 3 ECTS				