

Study programme

CPII & Engineering Cycle

2019/2020



The Engineering Program at ECAM Strasbourg Europe is composed of two main Cycles: the CPII (*Cursus Préparatoire avec Immersion à l'Internationale*) and the Engineering Cycle. The CPII takes 2 years and follows the French national educational program in Physics, Chemistry and Engineering Sciences. At ECAM Strasbourg, students follow their second year abroad. The Engineering Cycle is oriented Mechanical and Electrical Engineering but also with industrial Engineering, Management and Languages.

First Academic Year

CPII

Semester 1

	Hours in English	Hours in French	ECTS
Scientific basis:	0	178.5	12
Mathematics 1	0	101.5	7
Physics 1	0	77	5
Computer sciences:	0	26.25	2
Web technologies	0	26.25	2
Electrical engineering and automation:	29.75	66.5	6
Electricity	29.75	0	2
Electronics 1	0	66.5	4
Mechanical engineering:	0	45.5	3
Mechanical design (conception) 1	0	45.5	3
Social and Management Skills:	0	45.5	3
Professional project	0	14	1
Intercultural Support and Engineer's Ethics	0	7	0.5
Communication	0	24.5	1.5
Language skills:	73.5	0	4
English language	36.75	0	2
German language	36.75*	0	2

* In German

Semester 2

	Hours in English	Hours in French	ECTS
Scientific basis:	0	178.5	12
Mathematics 2	0	101.5	7
Physics 2	0	77	5
Computer sciences:	26.25	0	2
Industrial Informatics	26.25	0	2
Electrical engineering and automation:	94.5	0	6
Automatism	28	0	2
Electronics 2	66.5	0	4
Mechanical engineering:	0	45.5	3
Mechanical design (conception) 2	0	45.5	3
Social and Management Skills:	0	45.5	3
Professional project 2	0	14	1
Intercultural Support and Engineer's Ethics 2	0	7	0.5
Communication 2	0	24.5	1.5
Language skills:	73.5	0	4
English language 2	36.75	0	2
German language 2	36.75*	0	2

*In German

Second Academic Year

CPII

Semesters 3 and 4 are conducted entirely abroad.

For the complete program abroad, visit: <http://ecam-strasbourg.eu/wp-content/uploads/2017/11/Syllabus-ECAM-CPI-v4.pdf>

Semester 5

	Hours in English	Hours in French	ECTS
Scientific basis: (EC05-ProbStat) Statistics and Probability (EC05-LogCom) Combinational and sequential logics	7 7 0	21,25 14 21,25	4 2,5 1,5
Computer sciences: (EC05-Algo) Introduction to algorithm and programming language	22,75 22,75	0 0	2 2
Electrical engineering and automation: (EC05-ElecAna) Analogical Electronics (EC05-ElecTri) Automation	7 7 11	55 28 27	4 2 2
Material sciences and engineering: (EC05-Mat) Physics of metallic materials (EC05-Semi) Physics of semiconductors	41,75 34,75 7	0 0 0	4 3 1
Mechanical engineering: (EC05-Méca) General Mechanics (EC05-ConMéca) Mechanical design	49 29,75 19,25	0 0 0	5 2.5 2.5
Industrial engineering: (EC05-InitEnt) Introduction to industrial processes (EC05-OutIndus-1) Industrial Tools 1 (EC05-ProclIndus) Industrial Procedure	0 0 15,25 7	48,75 20,5 0 6,75	3 1 1 1
Social and Management Skills: (EC05-ProjProf) Professional project (EC05-Accom) Intercultural Support and Engineer's Ethics (EC05-Com) Communication (EC05-ProjLib) Free project	12,25 0 5,25 0 7	35 15,75 17,5 19,25 0	4 1 1 1 1
Language skills: (EC05-Ang) English language (EC05-All) German language	24,50 24,50 0	0 0 0	4 2 2

Semester 6

	Hours in English	Hours in French	ECTS
Computer sciences:	34,5	0	3
<i>(EC06-Prog)</i> Object-oriented programming (Java)	19,25	0	2
<i>(EC06-ProjInfo)</i> Management of computer projects	15,25	0	1
Electrical engineering and automation:	7	64,75	5
<i>(EC06-Moteur)</i> Electric machines	0	27,75	2
<i>(EC06-ProjGEA)</i> GEA Project	3,5	12,25	1
<i>(EC06-Autom)</i> Automatism	3,5	24,74	2
Materials science and engineering:	33,25	19,25	3
<i>(EC06-RDM)</i> Theory of material strength	33,25	19,25	3
Mechanical engineering:	63	0	4
<i>(EC06-MécaSys)</i> Mechanical Assembly and power transmission	33,25	0	2.2
<i>(EC06-ConMeca)</i> Computer Aided Design (CAD)	29,75	0	1.8
Industrial engineering:	59,5	31,5	5
<i>(EC06-OutIndus-2)</i> Industrial Tools 2	35	0	2
<i>(EC06-PropInt)</i> Intellectual property	0	17.5	1
<i>(EC06-GesIndus-1)</i> Industrial management	24,5	14	2
Social and Management Skills:	10,5	21,5	3
<i>(EC06-ProjProf)</i> Professional project	0	5,25	0.5
<i>(EC06-ProjLib)</i> Free project	5,25	0	1
<i>(EC06-Com)</i> Communication	0	8,75	0.5
<i>(EC06-Accom)</i> Intercultural Support and Engineer's Ethics	5,25	7	1
Language skills:	24,50	0	4
<i>(EC06-Ang)</i> English language	24.5	0	
<i>(EC06-All)</i> German language	0	0	
6-week internship		-	3

Semester 7

	Hours in English	Hours in German	Hours in French	ECTS
Computer Sciences	26,25	24.5	0	4
<i>(EC07-BDD)</i> Introduction to Data Base (SQL)	17,5	14	0	2,5
<i>(EC07-Archi)</i> Computer Network Architecture and security	8,75	10.5	0	1,5
Electrical Engineering and Automation	45,75	0	15,50	4
<i>(EC07-SystEmb)</i> Integrated systems	30,5	0	3,5	2
<i>(EC07-ElecPuis)</i> Power Electronics	15,25	0	12	2
Mechanical Engineering	89,25	0	0	7
<i>(EC07-Vib)</i> Vibrations	33,25	0	0	2,5
<i>(EC07-MEF)</i> Finite Element Method	22,75	0	0	2
<i>(EC07-MecaFlu)</i> Fluid Mechanics	33,25	0	0	2,5
Industrial Engineering	91	0	0	8
<i>(EC07-OutIndus-3)</i> Industrial Tools 3	21	0	0	1,2
<i>(EC07-ProjTech1)</i> Industrial project Part 1	35	0	0	4
<i>(EC07-GesIndus-2)</i> Industrial Management 2	24,50	0	0	1,8
<i>(EC07-EcoCon)</i> Eco-design to innovation	10,5	DoP*	DoP*	1
Social and Management Skills	21	0	19,25	3
<i>(EC07-GesProj)</i> Project Management	14	0	0	1
<i>(EC07-ProjProf)</i> Professional Project 3	0	0	19,25	1
<i>(EC07-Accom)</i> Intercultural Support and Engineer's Ethics 3	7	0	7	1
Language Skills	24,5	24,50	0	4
<i>(EC07-Ang)</i> English language	24,5	0	0	
<i>(EC07-All)</i> German language	0	24,5	0	

DoP* = Depends on the project

Semester 8

	Hours in English	Hours in German	Hours in French	ECTS
Electrical Engineering and Automation	52,5	0	8,75	3
(EC08-Asser) Analog Control Systems and regulations	22,75	0	8,75	1
(EC08-CompoProg) Programmable logic devices	15,75	0	0	1
(EC08-ComNum) Digital Control Systems	14	0	0	1
Materials Science and Engineering	52.50	0	12,5	3
(EC08-Ceram) Polymer and Ceramic	21	0	0	1
(EC08-Trait) Thermal treatment and corrosion	31,50	0	0	2
Mechanical engineering	43,75	0	17,5	5
(EC08-TransTherm) Heat Transfer	17,5	0	17,5	2,5
(EC08-MachinTherm) Thermodynamics	26,25	0	0	2,5
Industrial engineering	103,25	0	0	8
(EC08-Indus) Industrialization	19,25	0	0	1.2
(EC08-ProjTech2) Industrial project (Part2)	35	DoP*	0	3.5
(EC08-Supply) Supply Chain Management	22,75	0	0	1.5
(EC08-GesIndus-3) Industrial Management 3	26,25	0	0	1.8
Social and Management Skills	0	0	10,5	2
(EC08-ProjProf) Professional project	0	0	5,25	1
(EC08-Accom) Intercultural Support and Engineer's Ethics	0	0	5,25	1
Language skills	24,5	24,5	0	4
(EC08-Ang) English language	24,5	0	0	2
(EC08-All) German language	0	24,5	0	2
16-week internship (4 months)			-	6

DoP* = Depends on the project

Semester 9 - Majors

	Hours in English	Hours in German	Hours in French	ECTS
1. Lean Manufacturing	0	0	17,5	8
<i>(EC09-LM-Culture)</i> Continual improvement	0	0	14	2,5
<i>(EC09-LM-Flux)</i> Flux	0	0	1,75	2,5
<i>(EC09-LM-Process)</i> Processes	0	0	1,75	3
2. Innovation and Intellectual property	56,25	0	45,5	8
<i>(EC09-IPI-Strat)</i> Innovation & Strategy	19,25	0	0	1
<i>(EC09-IPI-Crea)</i> Innovation & Creativity	17,5	0	0	1,5
<i>(EC09-IPI-Proto)</i> Innovation & Prototypes	0	0	33,25	3
<i>(EC09-IPI-Réso)</i> Innovation & Solving problems	19,25	0	0	1,5
<i>(EC09-IPI-Prop)</i> Innovation & Intellectual property	0	0	12,25	1
3. Management of Industrial Information Systems:	94,25	0	0	8
<i>(EC09-MSII-Lean IT)</i> Lean IT	12,25	0	7	1,5
<i>(EC09-ERP)</i> ERP and Business intelligence	24,5	0	3,5	2
<i>(EC09-MSII-ProjIoT)</i> IoT Project	15,75	0	0	2
<i>(EC09-Sécu)</i> Security: networks and software	19,25	0	0	1,5
<i>(EC09-BigData)</i> Big Data for Companies	21	0	1,75	1
4. Materials and Sustainable Development	15,75	0	49	8
<i>(EC09-DD-Juridique)</i> Law and society	0	0	8,75	1
<i>(EC09-AspectEner)</i> Energy	0	0	22,75	2
<i>(EC09-AspectMat)</i> Material	15,75	0	0	2
<i>(EC09-PerfEner)</i> Energy performance	0	0	10,50	2
<i>(EC09-AspectEco)</i> Economy	0	0	7	1

On top of *one* of the above-mentioned majors, students will take part in the following classes:

	Hours in English	Hours in German	Hours in French	ECTS
R & D project (EC09-PRD) Research and development project	DoP* Dop*	DoP* DoP*	50 50	9 9
Economy and Law:	33,25	0	71,75	6
(EC09-GesComp) Financial management	17,5	0	0	1,5
(EC09-Entrep) Entrepreneurship	0	0	17,5	1,5
(EC09-Achat) Technical purchasing & Negotiation	0	0	15,75	1
(EC09-Mark) Marketing – Market study	15,75	0	0	1
(EC09-Droit) French labor and company law	0	0	15,75	1
Social and Management Skills	33,25	0	22,75	3
(EC09-ProjProf) Professional project	0	0	15,75	1
(EC09-Accom) Intercultural Support and Engineer's Ethics	7	0	7	0,5
(EC09-Manag) Engineering Management	26,25	0	0	1,5
Language skills:	24,5	24,5	0	4
(EC09-Ang) English language	24,5	0	0	2
(EC09-All) German language	0	24,5	0	2

DoP* = Depends on the project

Semester 10	Hours	ECTS
21-week internship (6 months)	-	30

Version: May 2019

