



CentraleSupélec

COURSE CATALOGUE

Engineer Specializing in Physics

Third year

Metz Campus of CentraleSupélec

last update: August 12, 2025

Semester 9

ISP-PHY-S09-30	Photonic Engineering S09	7 ECTS
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ISP-PHY-S09-31	Nanoengineering S10	5 ECTS
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ISP-PHY-S09-32	Quantum Engineering S09	5 ECTS
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ISP-PHY-S09-34	Capstone Project S09	6 ECTS
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ISP-PHY-S09-12	Humanities Management and Business Development S09		3 ECTS
SPM-HEP-020	1	Legal and regulatory systems	12.0 h
SPM-HEP-015	1	Innovation	35.0 h

ISP-PHY-S09-06	Modern Languages S09		4 ECTS
LV1S09	1	Foreign Languages and Culture 1	21.0 h
LV2S09	1	Foreign Languages and Culture 2	21.0 h

Semester 10

ISP-PHY-S10-33	Industrial Physics S10	7 ECTS
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ISP-PHY-S10-35	Capstone Project S10	4 ECTS
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ISP-PHY-S10-13	Humanities Management and Business Development S10		2 ECTS
SPM-HEP-007	1	Financial management	15.0 h
SPM-HEP-022	1	Management	19.0 h

ISP-PHY-S10-07	Modern Languages S10		2 ECTS
LV1S10	1	Foreign Languages and Culture 1	11.5 h
LV2S10	1	Foreign Languages and Culture 2	11.5 h

ISP-PHY-S10-01	to be translated		15 ECTS
SPM-STA-003	1.0	End-of-studies internship	0.0 h

LEGAL AND REGULATORY SYSTEMS

Course supervisor: Damien Rontani, Hervé Frezza-Buet

Total: 12.0 h

CM: 6.0 h, **TD:** 6.0 h

SPM-HEP-020

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INNOVATION

Course supervisor: Ninel Kokanyan

Total: 35.0 h

CM: 17.0 h, **TD:** 16.0 h

SPM-HEP-015

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Evaluated skills:

- Research / Innovation
- Business Intelligence

FOREIGN LANGUAGES AND CULTURE 1

Course supervisor: Elisabeth Leuba

Total: 21.0 h

TD: 21.0 h

LV1S09

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Description: The first foreign language is generally English. Students are divided into level groups ; in class, work is not only focused on the 4 language competences but also on various topics studied in depth according to students' levels. Topics cover a range of fields, such as civilisation, society and the professional world. Limited class size enables active participation and significant improvement in the language. The educational approach is varied: group work, class presentations, specific exercises, research, debates, etc.

Learning outcomes: At the end of the course, students will have improved their ability to communicate in an international professional, academic or personal context.

Evaluation methods: Assessment will be by continuous assessment according to criteria to be determined by each teacher, taking into account personal investment in the course. Each course will be marked out of 20 at the end of the semester.

Evaluated skills:

- Management

FOREIGN LANGUAGES AND CULTURE 2

Course supervisor: Beate Mansanti

Total: 21.0 h

TD: 21.0 h

LV2S09

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Description: Students are offered a range of second foreign languages at different levels, including for beginners. Students are divided into level groups; in class, work is not only focused on the 4 language competences but also on various topics studied in depth according to students' levels. Topics cover a range of fields, such as civilisation, society and the professional world. Limited class size enables active participation and significant improvement in the language. The educational approach is varied: group work, class presentations, specific exercises, research, debates, etc.

Learning outcomes: At the end of the course, students will have improved their ability to communicate in an international professional, academic or personal context.

Evaluation methods: Assessment will be by continuous assessment according to criteria to be determined by each teacher, taking into account personal investment in the course. Each course will be marked out of 20 at the end of the semester.

Evaluated skills:

- Management

FINANCIAL MANAGEMENT

Course supervisor: Hervé Frezza-Buet, Damien Rontani

Total: 15.0 h

CM: 7.5 h, **TD:** 7.5 h

SPM-HEP-007

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Evaluated skills:

- Business Intelligence

MANAGEMENT

Course supervisor: Damien Rontani, Hervé Frezza-Buet

Total: 19.0 h

TD: 19.0 h

SPM-HEP-022

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Evaluated skills:

- Management

FOREIGN LANGUAGES AND CULTURE 1

Course supervisor: Elisabeth Leuba

Total: 11.5 h

TD: 11.5 h

LV1S10

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Description: The first foreign language is generally English. Students are divided into level groups ; in class, work is not only focused on the 4 language competences but also on various topics studied in depth according to students' levels. Topics cover a range of fields, such as civilisation, society and the professional world. Limited class size enables active participation and significant improvement in the language. The educational approach is varied: group work, class presentations, specific exercises, research, debates, etc.

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Evaluated skills:

- Management

FOREIGN LANGUAGES AND CULTURE 2

Course supervisor: Beate Mansanti

Total: 11.5 h

TD: 11.5 h

LV2S10

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Description: Students are offered a range of second foreign languages at different levels, including for beginners. Students are divided into level groups; in class, work is not only focused on the 4 language competences but also on various topics studied in depth according to students' levels. Topics cover a range of fields, such as civilisation, society and the professional world. Limited class size enables active participation and significant improvement in the language. The educational approach is varied: group work, class presentations, specific exercises, research, debates, etc.

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Evaluated skills:

- Management

END-OF-STUDIES INTERNSHIP

Course supervisor: Hervé Frezza-Buet, Damien Rontani

SPM-STA-003

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Evaluated skills:

- Physical Engineering Design
- Physical Modeling
- Data Processing
- Systems Analysis
- Research / Innovation
- Business Intelligence