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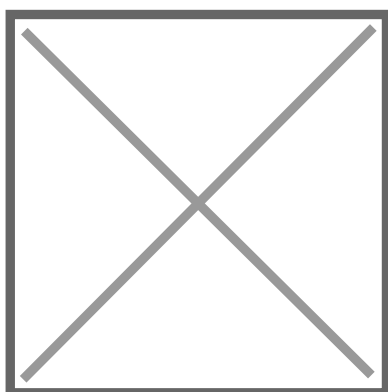
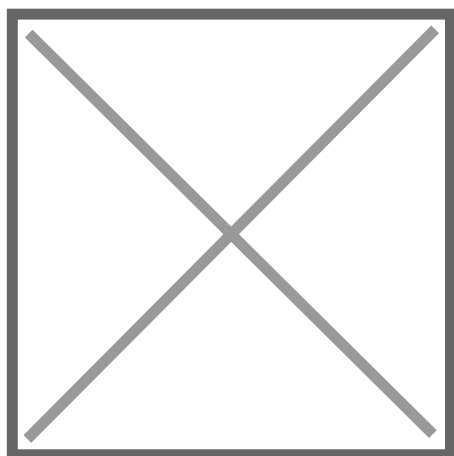
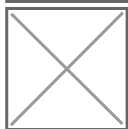
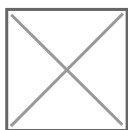
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Une erreur est survenue. Merci de réessayer ultérieurement

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Add to Compare

M2 Technology of Semiconductor Devices



Master's degree

Specialisation Electrical Engineering

Enrolment type

Full-time academic programmes

Language(s) of instruction

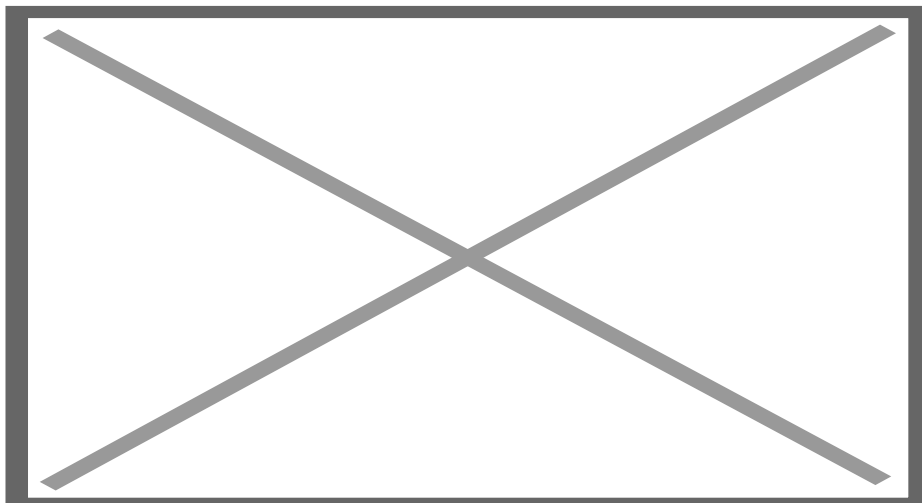
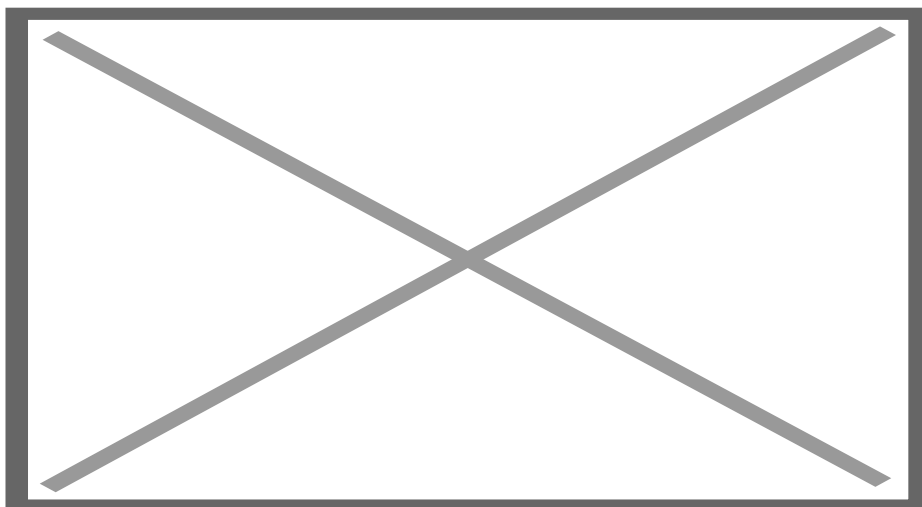
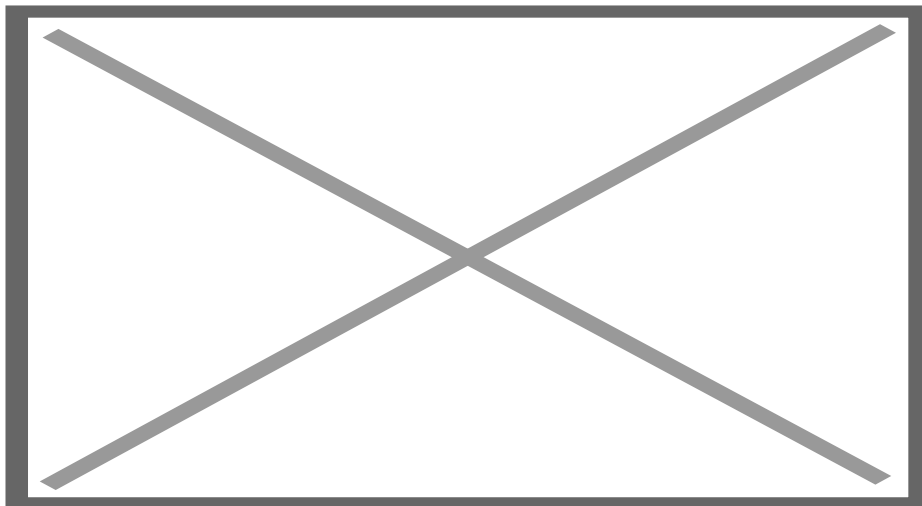
English

Technology of semiconductor devices master's program aims to bridge the gaps between physical, technological, and system aspects in micro-nano electronics and photonics.

The curriculum consists of ten teaching units, delivered through lectures and hands-on laboratory sessions, two of which are elective. The program concludes with a mandatory research internship carried out in either an academic or industrial laboratory.

[Télécharger la fiche détaillée](#)

[Apply Now](#)





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Information

- [Overview](#)
- [Application requirements](#)
- [Schedule](#)

Présentation

Skills

- Design semiconductor-based components for high-speed electronics and optoelectronics, radio-frequency applications, and photonics.
- Dimension and analyze systems based on assemblies of high-speed components.
- Identify key physical phenomena within components to optimize their performance.
- Master micro- and nanofabrication techniques for semiconductor devices.
- Interpret scientific literature to conduct experiments aimed at research, innovation, and knowledge creation.
- Present and defend research findings, both in written form and through oral presentations.

Objectives

The program aims to provide training that bridges the gaps between physical principles and system-level aspects across various fields and emerging challenges, such as communications, fast instrumentation, embedded systems, environmental technologies, artificial intelligence, and quantum technologies.

Débouchés

Career prospects

After a Master's or Master's + PhD: engineer (R&D, control, production, etc.)

After a Master's + PhD: researcher or lecturer

After a Master's or Master's + PhD: engineer (Research & Development, control, production, etc.)

After a Master's degree: Research analyst

R&D Engineer

design study engineer

Consulting

Commercial

Design engineer in the industrial sector

Design engineer in the research / scientific sector

Design engineer industry / public research

Research or Design Engineer

Lecturer (after a PhD)

Research Engineer

Design engineer

Further Study Opportunities

R&D researcher or data modelling and analysis expert in leading-edge companies or laboratories.

**Data Scientist, Data Analyst, Ingénieur·e en Machine Learning dans des secteurs innovants (tech, finance, santé, énergie, etc.) ;
PhD
Engineering, research and development
PhD thesis**

Calendar

Start of programme (indicative date)

04/09/2026

End of programme (indicative date)

30/09/2027

Admission

Capacity

Available Places

25

Target Audience and Entry Requirements

Master 1 in electrical engineering, physics, engineering student or equivalent.

Période(s) de candidature

Inception Platform

From 30/01/2026 to 12/07/2026

Supporting documents

Compulsory supporting documents

Copy of identity document.

Motivation letter.

All transcripts of the years / semesters validated since the high school diploma at the date of application.

Certificate of English level.

Curriculum Vitae.

Additional supporting documents

Other diplomas.

VAP file (obligatory for all persons requesting a valuation of the assets to enter the diploma).

Programme

TDS Core UE

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
Micro and Nanofabrication of Semiconductor Devices	6	Semestre 1	27		40			
■								

Micro and Nanofabrication of Semiconductor Devices

ECTS : 6

Semester: Semestre 1

Detail

Lecture: 27

Practical study : 40

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

none

Learning objectives

Découvrir les outils de micro et nano fabrication à travers des cours et des séances de travaux pratiques.

Type of assessment

Evaluation Continue non Intégrale

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
Technology and Design of Integrated Microwave and RF Circuits	5	Semestre 1	27		20			

Technology and Design of Integrated Microwave and RF Circuits

ECTS : 5

Semester: Semestre 1

Detail

Lecture: 27

Practical study : 20

Language(s) of instruction

Anglais

Remote teaching

non

Prerequisites

Fundamentals of microwaves, such as telegraph equations, S-parameters, Impedance matching and stability of linear circuits.

Programme/contents

Electronic systems increasingly require specialized high-frequency circuits to meet the demands of high-speed communication and the high-density deployment of connected devices. Therefore, the design and technologies of high-frequency circuits are studied and implemented using linear circuits such as broadband amplifiers and non-linear circuits such as mixers and oscillators. The technological processes for manufacturing MMIC circuits are discussed. Linear models, including noise, and non-linear models of active devices are described, along with their physical models.

Overall organisation

9 three-hour lectures and 5 four-hour practical sessions, with one final exam and evaluation of lab reports.

Type of assessment

Evaluation Continue non Intégrale

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
Solid states devices	3	Semestre 1	30					
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Solid states devices

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 30

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

Optoelectronics	3	Semestre 1	30
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Optoelectronics

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 30

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

Integrated optics and Nanophotonics	3	Semestre 1	30
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Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	practical class	directed study/practical class
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Integrated optics and Nanophotonics

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 30

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[THz semiconductor components](#) 3 Semestre 1 30

THz semiconductor components

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 30

Language(s) of instruction

Anglais

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Circuit nanoarchitecture and deep learning](#) 3 Semestre 1 18 12

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
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Circuit nanoarchitecture and deep learning

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 18

Practical study : 12

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

TDS Elective UE

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class
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[Research Project](#)

3

Semestre
1

■

Research Project

ECTS : 3

Semester: Semestre 1

Detail

Project : 27

Language(s) of instruction

Anglais

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Technological Project](#)

3

Semestre
1

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	directed study/practical class
----------	------	----------	---------	----------------	-----------------	------------------------	-------------------------	--------------------------------	--------------------------------

Technological Project

ECTS : 3

Semester: Semestre 1

Detail

Project : 27

Language(s) of instruction

Anglais

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Photonic](#)

[Integration](#)

[Functions](#)

3 Semestre 1 30

Photonic Integration Functions

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 30

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Continue non Intégrale

[Advanced](#)

[and Next-](#)

[Generation](#)

[Optical](#)

[Transmission](#)

[Systems](#)

3 Semestre 1 18 12

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distance learning
----------	------	----------	---------	----------------	-----------------	------------------------	-------------------------	--------------------------------	-------------------

Advanced and Next-Generation Optical Transmission Systems

ECTS : 3

Semester: Semestre 1

Detail

Lecture: 18

Practical study : 12

Language(s) of instruction

Français

Remote teaching

non

Prerequisites

- Optical information propagation and point-to-point transmission system (M2 module)
- Matlab programming.
- Spatial and Fourier optics.

Type of assessment

Evaluation Continue non Intégrale

[UE libre](#)

[Catalogue S1](#)

2.5

Semestre

1

UE libre Catalogue S1

ECTS : 2.5

Semester: Semestre 1

Language(s) of instruction

Français

Remote teaching

non

Type of assessment

Evaluation Terminale

TDS internship

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distance learning
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[TDS](#)

[internship](#)

28

Semestre

2

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distance learning
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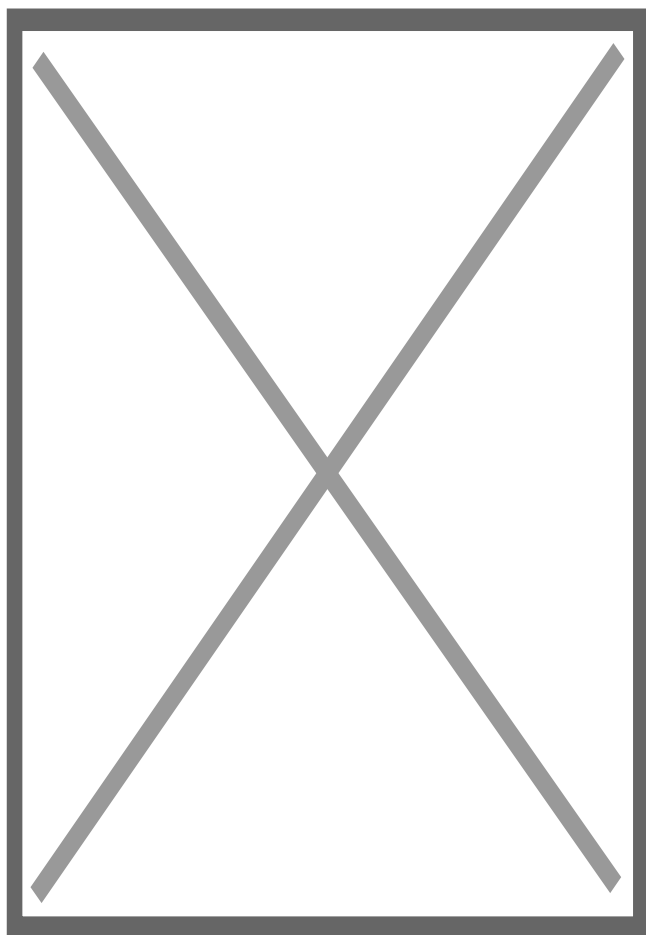
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TDS internship

ECTS : 28
Semester: Semestre 2
Language(s) of instruction
Anglais
Remote teaching
non
Type of assessment
Evaluation Terminale

Training campus

Javascript est requis pour visualiser cette carte.



Saclay Moulon

Saclay / Gif-sur-Yvette / Orsay

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RER B Le guichet

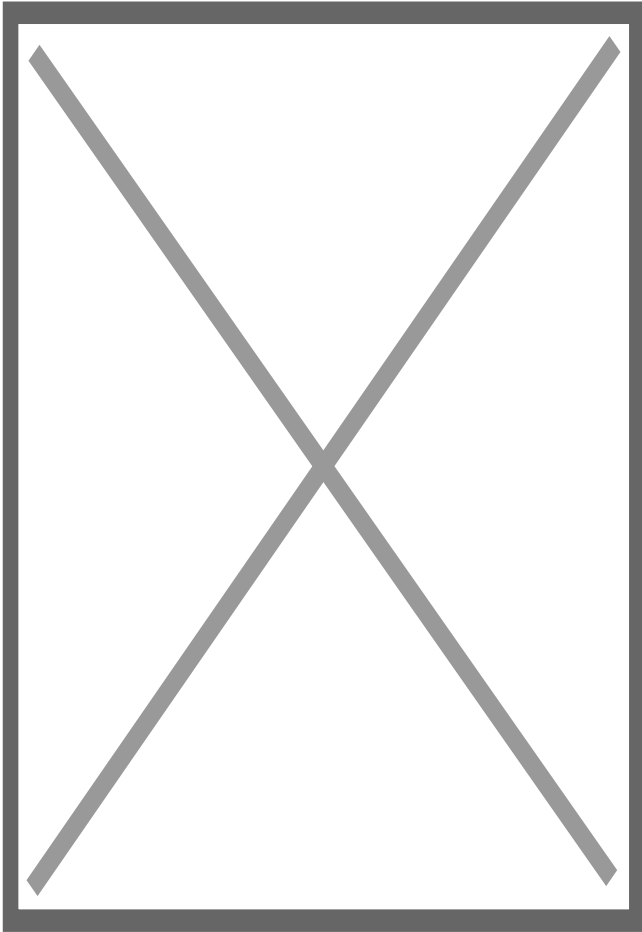
[Voir](#)

Student restaurant (CROUS)

Library

Sports facilities

Student residence



Saclay Corbeville

Saclay / Palaiseau

Bus 4606, 4627, 5154, 9105, 9108

RER B Palaiseau, Palaiseau villebon ou Lozère

[Voir](#)

Student restaurant (CROUS)

Student residence

Sports facilities

Contact

- **Nicolas ZEROUNIAN**
MCF
- **Adel BOUSSEKSOU**
MCF

<http://www.universite-paris-saclay.fr/formation/master/electronique-energie-electrique-automatique/m2-technologie-des-dispositifs-semiconducteurs-tds>