Université Paris-Saclay
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M2 Technology of Semiconductor Devices

Master's degree
Specialisation Electrical Engineering
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.

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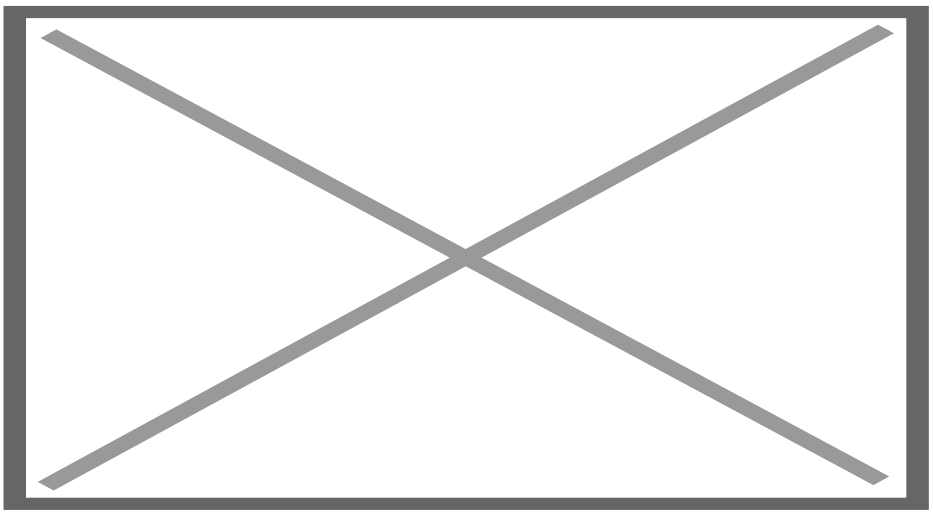

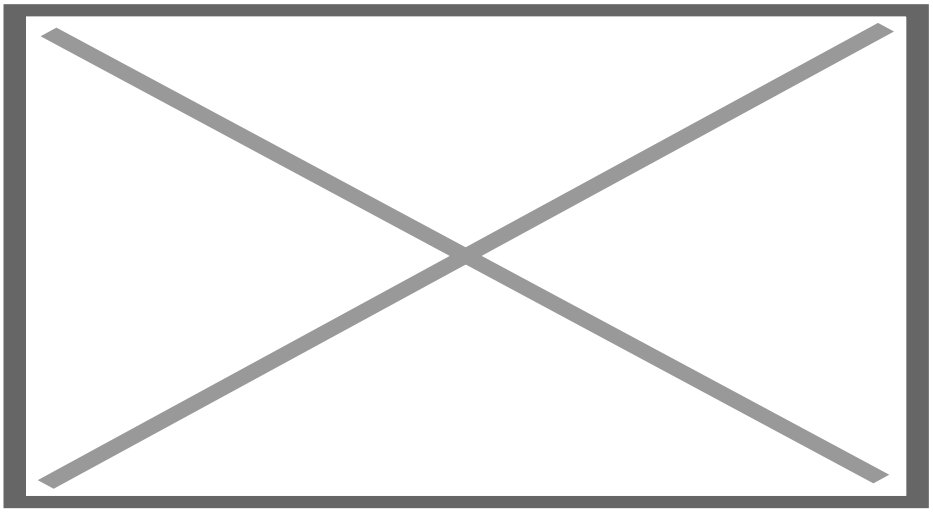

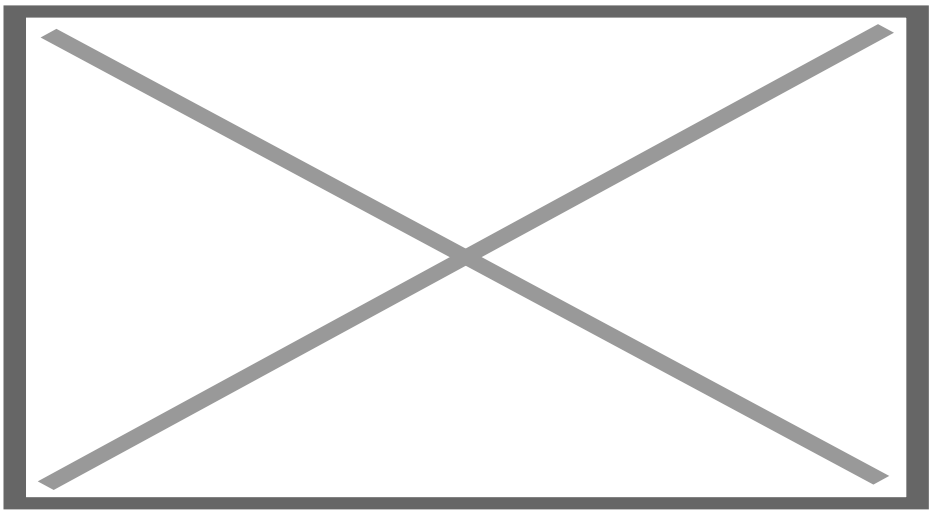

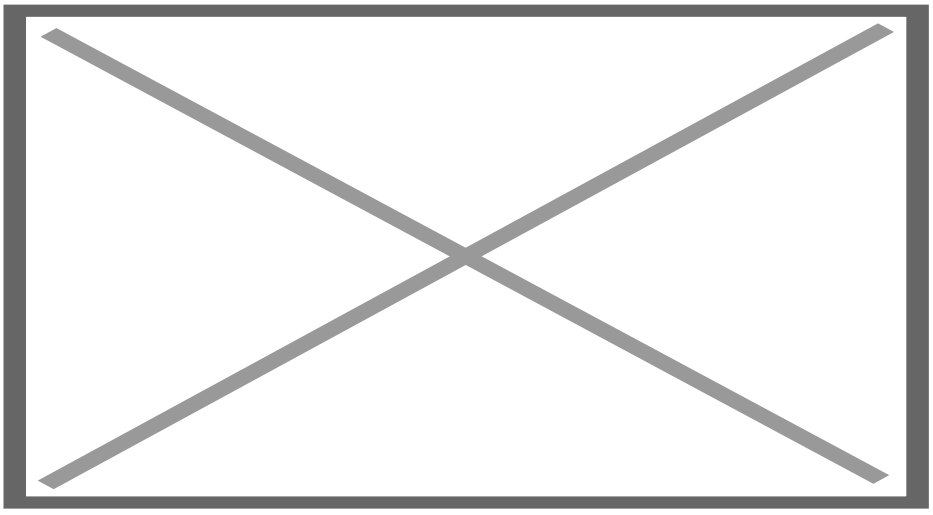

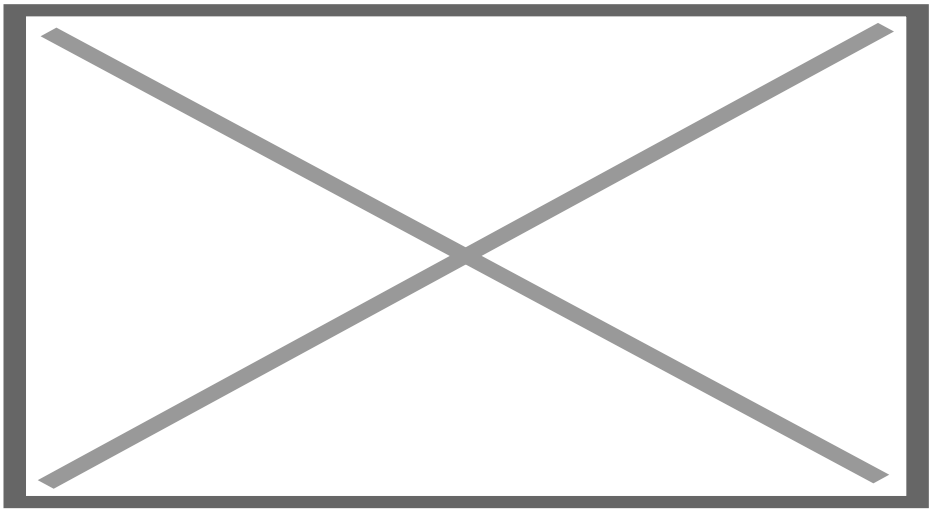

Information

- 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

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	Semester 1	27		40	
Charger le détail						
Technology and Design of Integrated Microwave and RF Circuits	5	Semester 1	27		20	
Charger le détail						
Solid states devices	3	Semestre 1	30			
Charger le détail						
Optoelectronics	3	Semestre 1	30			
Charger le détail						
Integrated optics and Nanophotonics	3	Semestre 1	30			
Charger le détail						
THz semiconductor components	3	Semestre 1	30			
Charger le détail						
Circuit nanoarchitecture and deep learning	3	Semestre 1	18		12	
Charger le détail						

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le
Research Project	3	Semester 1							
Charger le détail									
Technological Project	3	Semester 1							
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le
Photonic Integration Functions	3	Semestre 1	30						
Charger le détail									
Advanced and Next-Generation Optical Transmission Systems	3	Semestre 1	18		12				
Charger le détail									
UE libre Catalogue S1	2.5	Semestre 1							
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distan learn cour
TDS internship	28	Semester 2							
Charger le détail									

Training campus

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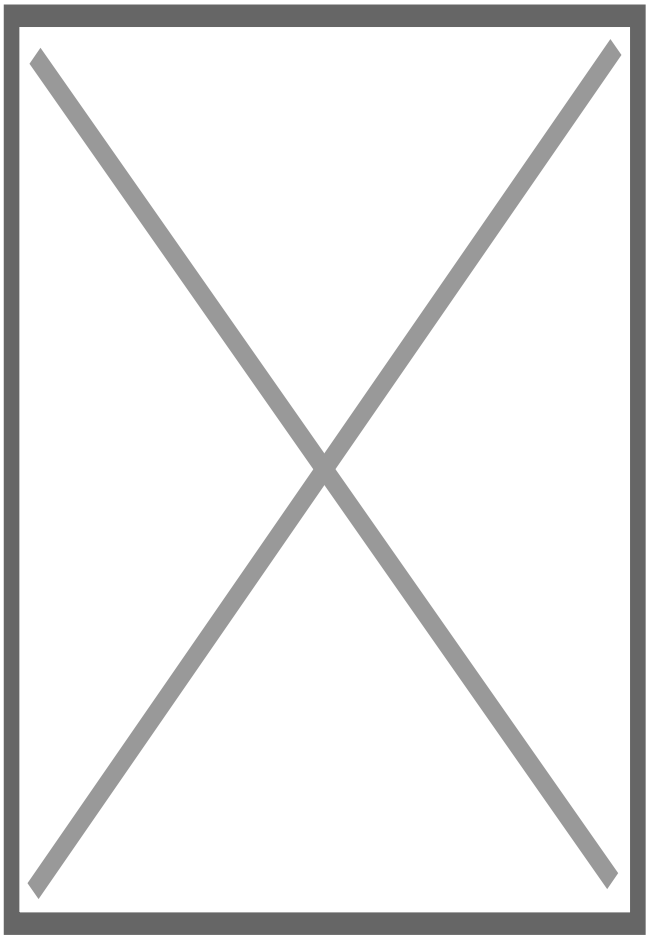
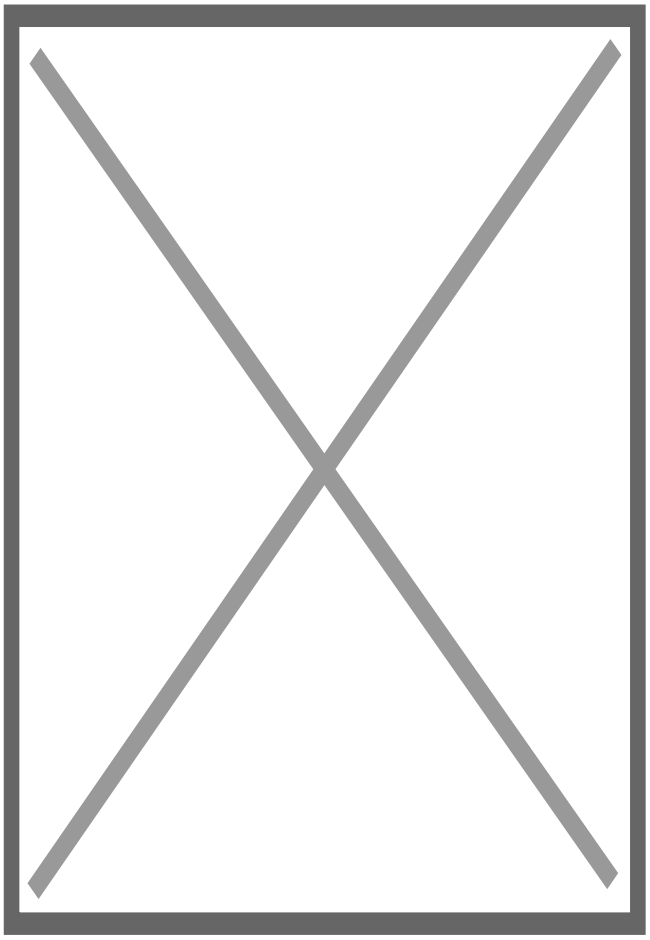


Saclay Moulon

Saclay / Gif-sur-Yvette / Orsay
Bus 4606 / 4609 / 4611 / 5154
RER B Le guichet
Voir
Student restaurant (CROUS)
Library
Sports facilities
Student residence



Saclay Corbeville

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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