Université Paris-Saclay
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M2 Mobile Autonomous Systems

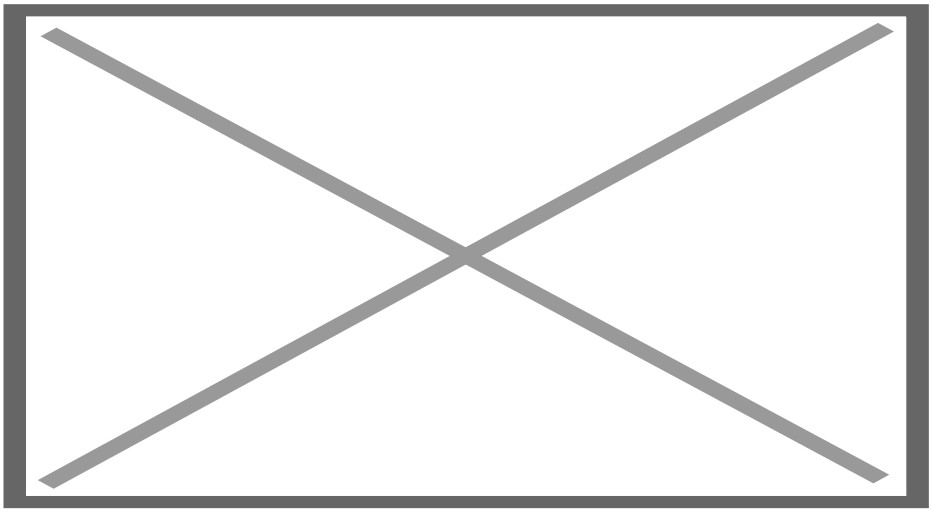
Master's degree
Specialisation Electrical Engineering
Enrolment type
Formation initiale
Formation continue
Language(s) of instruction
English
French

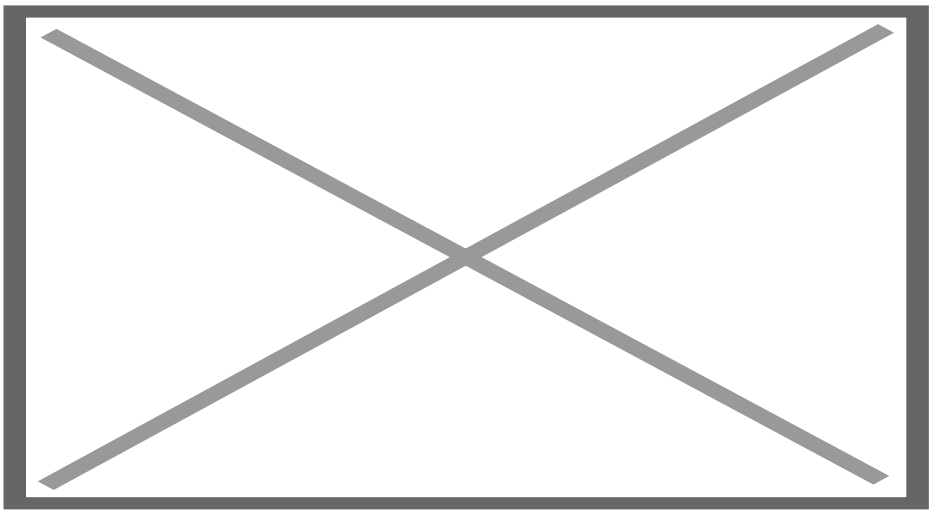
High-level training, as close as possible to the latest technologies, in close collaboration with industry and nationally and internationally recognized research laboratories in the field of autonomous systems and intelligent vehicles.

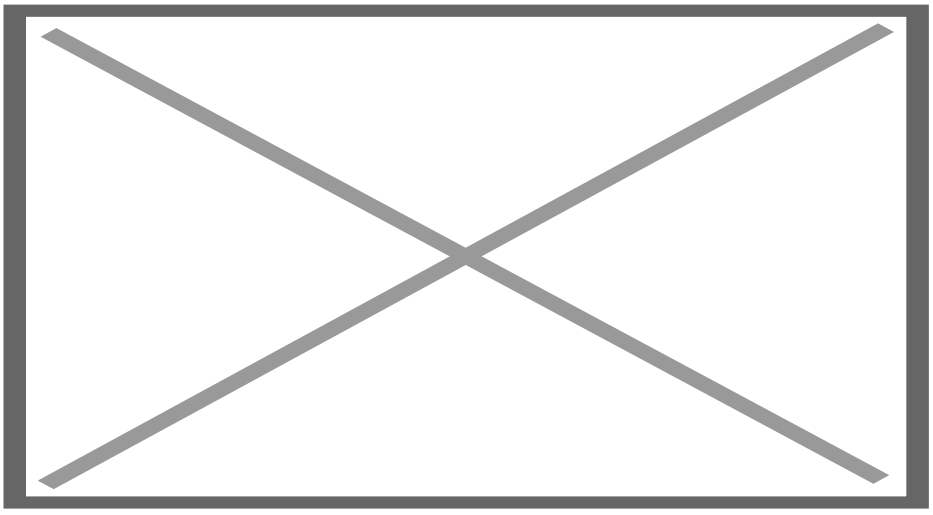
The SAM Master's degree covers the entire "perception, decision, action" cycle, including the "communication" and "interface" aspects between the control center and the operating part. The curriculum has two main focuses: the first, focused on "control," is aimed at engineers with strong skills in advanced automatic systems. The second, focused on "perception," deals with using and combining multi-sensorial information from various embedded sensors.

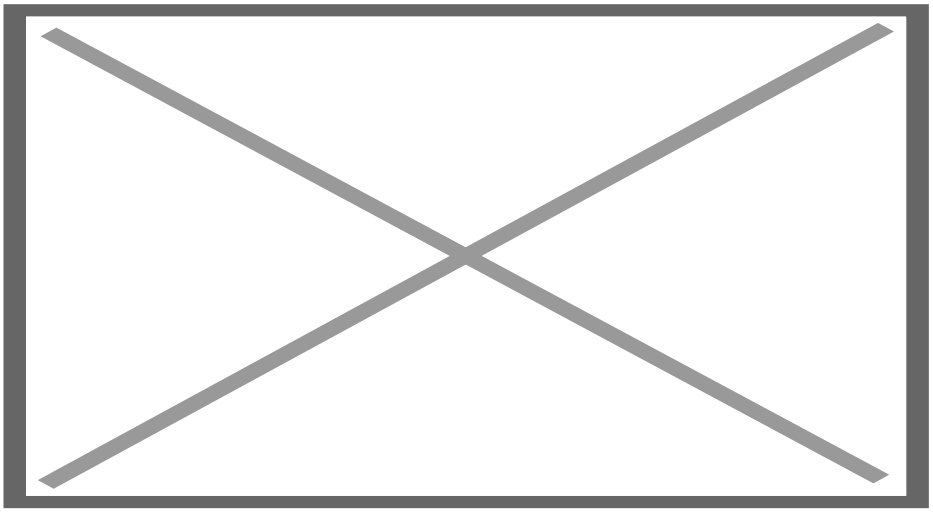
The program is supported by the IBISC laboratory, which is associated with the UFR Sciences and Technologies of the University Evry Paris-Saclay. The teaching staff conducts research on aerial or land transportation issues, on aeronautic or spatial robotics, in the following disciplines: modelling and simulation, automatic (control, fault diagnosis), signal and image processing, embedded IT.

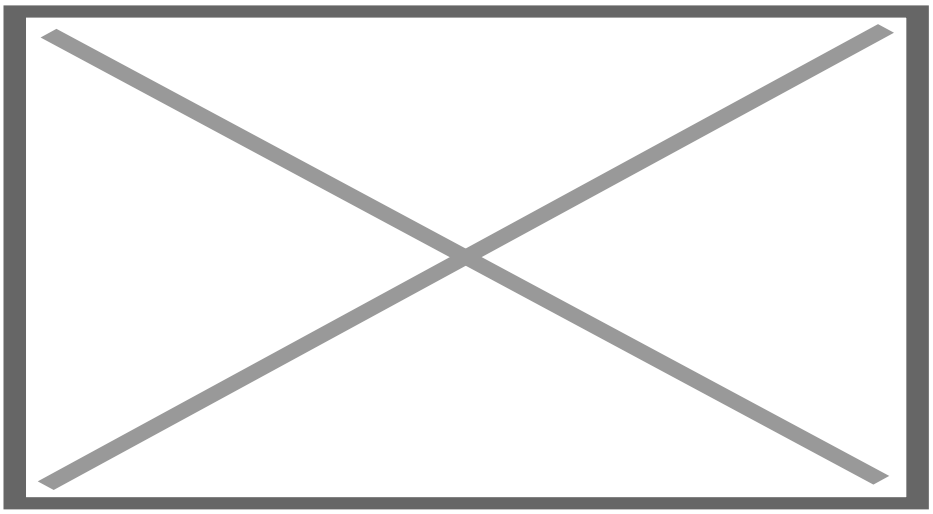
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Information

- Overview
- Application requirements
- Schedule

Présentation

Skills

Acquire the necessary fundamentals to process discrete two-dimensional signals from camera-type sensors (image signals) and therefore be able to design and integrate higher-level perception algorithms * Develop a cross-disciplinary approach with an excellent scientific basis in embedded system automation, enabling the design, testing, implementation and validation of control methods * Master the entire functional chain linking sensors, actuators and effectors, as well as the hardware and software architectures of the interfaces between the various elements of an autonomous system. * Master machine learning techniques and their application to the design of autonomous systems. * Acquire in-depth knowledge of embedded signal processing. * Be able to exploit the output signals from on-board sensors, combine them, and merge the higher-level information synthesised from these signals.

Objectives

The goal of the SAM Master's program is to enable students to master the concepts, models, and techniques required for the design, development, and control of autonomous mobile systems (land and air vehicles, mobile robots, etc.).
Upon completion of the program, students will be able to:

• Implement a "systems" approach to concrete engineering problems in innovation fields,
• Master the entire functional chain combining sensors, actuators, and effectors, as well as the hardware and software architectures of the interfaces between the different elements of an automated system,
• Master software-hardware simulation and rapid prototyping tools,
• Acquire a cross-disciplinary vision while maintaining an excellent scientific foundation in the automation of embedded systems, enabling the design, testing, implementation, and validation of control methods,
• Acquire in-depth knowledge of embedded signal processing,
• Be able to exploit the output signals of embedded sensors, combine them, and merge the higher-level information synthesized from these signals,
• Acquire the necessary foundations for processing discrete two-dimensional signals from camera-type sensors (image) and be able to design and integrate high-level perception algorithms,
• Having a strong sense of analysis and observation,
• Having listening, communication, and teaching skills,
• Fluency in scientific English.

Débouchés

Further Study Opportunities

PhD
Engineering school
Specialised Master's
PhD thesis
Graduates can be recruited under private or public sector employment contracts, but can also take part in public sector competitive exams and professional examinations.
Students with a 2nd year Master's degree have the possibility to pursue doctoral research.
Students in this track can turn to research at the end of the 2nd year Master's.
Engineering, research and development

Engineering, research and development
train international specialists, producing competitive work within reputable teams from public scientific and technological institutions (EPST), in particular the French National Institute of Health and Medical Research (Inserm) and French National Centre
The in-depth teaching in statistics, machine learning and applied mathematics provides students with the solid foundations they need to pursue a doctoral thesis.
the curriculum also enables students to enter the corporate world directly after their graduation, in positions such as Data Scientist, Data Analyst or Machine Learning Engineer.
Head of project/mission
Head of development
Research officer

Calendar

Start of programme (indicative date)
13/09/2026
End of programme (indicative date)
31/08/2027
Admission

Capacity

Available Places

56

Target Audience and Entry Requirements

Students who have completed the first year of a Master's degree, 3rd-year engineering school students, or international students with an engineering degree or an M2, in the following fields:

- GEII (Electrical Engineering, Industrial IT)
- Informatics
- EEA (Electronics, Electrical Engineering, Automation)
- E3A (Electronics, Electrical Energy, Automation)
- Signal and image processing
- Automation and Vehicle/Robotics

Période(s) de candidature

Inception Platform

From 30/01/2026 to 31/05/2026

Supporting documents

Compulsory supporting documents

Rank of previous year and size of the promotion.

Copy diplomas.

Motivation letter.

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

Curriculum Vitae.

Detailed description and hourly volume of courses taken since the beginning of the university program.

Additional supporting documents

Certificate of French (compulsory for non-French speakers).

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

Document indicating the list of local M2 choices available here : https://urlz.fr/i3Lo.

Supporting documents :
- Residence permit stating the country of residence of the first country
- Or receipt of request stating the country of first asylum
- Or document from the UNHCR granting refugee status
- Or receipt of refugee status request delivered in France
- Or residence permit stating the refugee status delivered in France
- Or document stating subsidiary protection in France or abroad
- Or document stating temporary protection in France or abroad.

Programme

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
Surveillance distribuée et systèmes multi-agents	3	Semestre 1	10	12	8				
Charger le détail									
Observation, capteurs virtuels	3	Semestre 1	10	12	8				
Charger le détail									
Commande non linéaire	3	Semestre 1	10	12	8				
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dista learr cou
Modèles avancés pour l'analyse et la commande	3	Semestre 1	10	12	8				
Charger le détail									
Intégration des systèmes de commande	3	Semestre 1	12	10	8				
Charger le détail									
Safe and Fault-Resilient Control Learning	3	Semestre 1	10	12	8				
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le c
Perception étendue des systèmes autonomes	3	Semestre 1	12	10	8				

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le c
Charger le détail									
Localisation, cartographie, planification	3	Semestre 1	10	12	8				
Charger le détail									
Fusion multicapteurs	3	Semestre 1	10	12	8				
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	di le c
Vision des systèmes mobiles	3	Semestre 1	10	12	8				
Charger le détail									
Modélisation des systèmes mobiles connectés	3	Semestre 1	10	12	8				
Charger le détail									
Apprentissage Automatique et Intelligence Artificielle	3	Semestre 1	10	12	8				
Charger le détail									
Optimization and Applied Artificial Intelligence	3	Semestre 1	12	10	8				
Charger le détail									

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea c
Anglais	2	Semestre 1		14					
Charger le détail									
Management de projet	1	Semestre 1		14					

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dis lea co
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
Vision non conventionnelle	3	Semestre 1	10	12	8			
Charger le détail								
Commande référencée capteurs	3	Semestre 1	10	12	8			
Charger le détail								
AI for computer vision	3	Semestre 1	10	12	8			
Charger le détail								

Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	dista learn cou
Projet recherche ou industriel	3	Semestre 2							
Charger le détail									
Séminaires recherche ou industriels	3	Semestre 2		20					
Charger le détail									

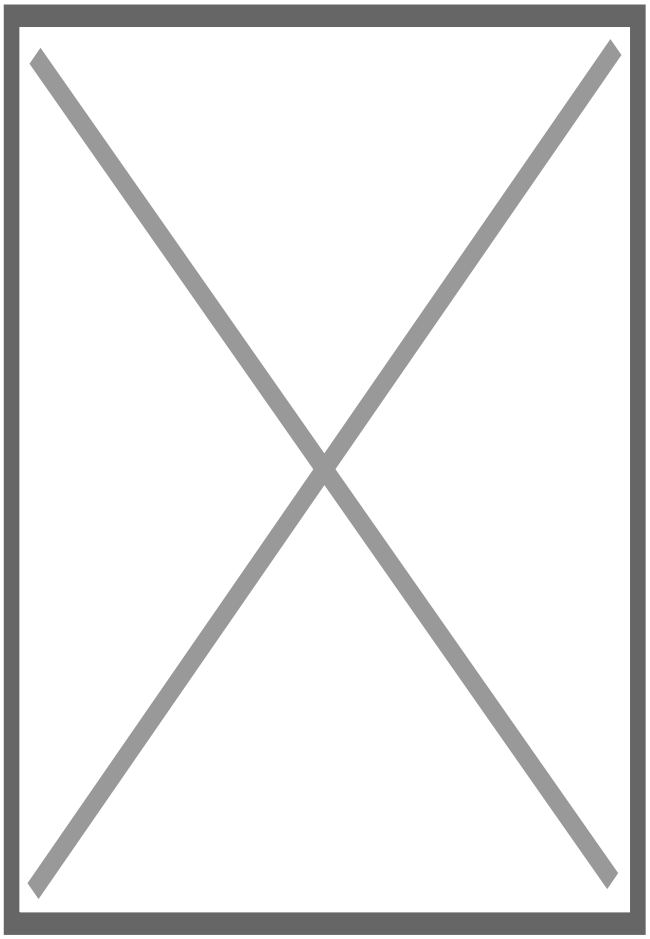
Subjects	ECTS	Semester	Lecture	directed study	practical class	Lecture/directed study	Lecture/practical class	directed study/practical class	distan learni cours
Stage	24	Semestre 2							
Charger le détail									

Teaching Location(s)

EVRY

Training campus

Javascript est requis pour visualiser cette carte.



Evry

Evry
Bus 9105, 4504
RER D Evry Courcouronnes
Voir
Student restaurant (CROUS)
Library
Student residence
Sports facilities

Contact

- **Mohammed CHADLI**

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http://www.universite-paris-saclay.fr/formation/master/electronique-energie-electrique-automatique/m2-systemes-automatiques-mobiles