

Computer Networks and IoT Systems

International Master (Initial training) — MR11601C

Admission requirements

- ♦ M1 (first year of master) : Bachelor's in computer science, software, electrical or telecom engineering
 - ♦ M2 (second year of master) : Bac+4, eligible depending on 4th-year curriculum
 - ♦ English certificate: B1 (M1) or B2 (M2) waived for native/English-taught applicants
- Native French speakers substitute the French as a Foreign Language (FFL) course with technical units

Objectives

The master is meant for computer engineering and computer science students willing to become expert of digital infrastructure technologies, going from network and cloud infrastructure solutions to edge computing and IoT systems and applications.

Students attending the Computer Networks and IoT Systems master will learn and experiment current and novel technologies underpinning the Internet infrastructure, related to Network Virtualization, Internet-of-Things (IoT) protocols and architectures, IoT device design, Artificial Intelligence and Machine Learning integration in network and embedded systems, Software-Defined-Networking, Cloud Networking, 5G and beyond 5G architectures – a set of novel technologies driving the digital society evolution.

Admission pathways and deadlines

Paris : Apply via <https://master.roc.cnam.fr/index.php/admission/>

Skills

- ♦ Design, deploy, and optimise cloud architectures
- ♦ Develop interoperable embedded applications for the Internet of Things
- ♦ Program and integrate on micro-controllers
- ♦ Create web and mobile applications
- ♦ Configure data-transport networks
- ♦ Implement machine-to-machine communications and massive-data management
- ♦ Integrate AI and machine-learning models into processing pipelines
- ♦ Apply cybersecurity principles and conduct vulnerability audits

Compétences

Datacenter and cloud providers | IoT software editors | embedded systems manufacturer | internet and mobile application editors | telecommunication network operators | smart-city and smart-grid network providers | artificial intelligence start-ups | Security and Defense

Assessment

- ♦ Validation of each UE with a grade $\geq 10/20$; internship
- ♦ Validation of each year with a weighted average (with weights corresponding to the ECTS of each module) $\geq 10/20$.

en bref

Responsable de la formation
Stefano Secci

Lieu Centre Cnam Paris | Athènes (Grèce) ,
en partenariat avec le Collège René Descartes |
Caire (Égypte), en partenariat avec
l'Université Française d'Égypte (UFE)

Tarifs Se rapprocher du centre Cnam Paris

Program M1		
UE	Course	ECTS
USEEJ6	Network Architecture	6
USEEN2	Operating Systems and Computer Architecture	6
USEEN3	Operations Research	4
USRS2H	Refresh in C & Bash Programming	3
USEEJ7	Performance Evaluation for Connected Systems	6
USEEK7	Network security	6
USEEJ8	Wireless Mobile Networks	6
USMC84	Scientific Communication I – Disseminating	2
USEEK3	Contemporary Economic Issues I – Economic growth and public policies	3
12 ECTS to choose		
USEEK1	English	6
USEEJ9	FLE – French as foreign language	6
USEES5	Sustainable IoT Technologies	3
USEES6	Next Generation IEEE 802.11 standards	3
USEES7	Data Management and Digital Transformation in Industrial Process Automation	3
USEES8	Big Data Technologies for Connected Industries	3
USEES9	Robot Predictive Maintenance	3
USEET1	Integration of Virtual and Augmented Reality Technologies in Connected Industries	3
6 ECTS to choose		
USEEN1	Cloud-native Infrastructure Security	6
USEES2	Control System Theory and Engineering	6
USEET3	Parallel and Distributed Systems	6
USEEW3	Industrial Internet of Things	6
USEEV6	Packet Switching and Processing Architectures	6

Program M2		
USRS78	Advanced Python Programming	3
USEEN4	Network Operations, Virtualization and Automation	6
USEEK8	Advanced Experimental Projects	6
USEEK9	Internet of things	2
USEEN5	Embedded Systems : Applications and Cybersecurity	6
USEEN6	Artificial Intelligence and Machine Learning for Connected Systems	6
USMC85	Scientific Communication II – Dialoguing	2
USMC86	Contemporary Economic issues II – Innovation and firms	2
UAEE2B	Master thesis – Internship	21
6 ECTS to choose		
USMC7C	FLE - French as foreign language	6
USEEU6	Applied Artificial Intelligence	3
USEEU7	WiFi and 5G Convergence in 6G	3
USEEU8	Smart Industry 4.0 Systems	3
USEEU9	Green AI Computing for Connected Industries	3
USEEV1	Communications for Precision Agriculture and Farming	3
USEEV2	Applications of AI and Cyber-threat Management	3
USEEV3	Programming and Communication of a Robotic Arm	3
USEEV5	FPGA Platforms : Programmable Embedded Systems	3

Volume horaire de référence (+/- 10%) :
6 ECTS = 50 heures

Contact

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