UPEC
UNIVERSITÉ PARIS-EST CRÉTEIL

FACULTÉ DES SCIENCES
ET TECHNOLOGIE

Master's degree in Optics, Image, Vision and Multimedia
Artificial Intelligence, Data Science and Cyber-Physic Systems

Master's degree year 1 - semester 1

Information theory (3 ECTS)
Programmable digital systems (3 ECTS)
Signal and image processing 1 (6 ECTS)
Object-oriented programming (3 ECTS)
Algorithm design and analysis (3 ECTS)
Waiting-line and queuing theory (3 ECTS)
Optimisation technique (3 ECTS)
Language techniques (3 ECTS)
English 1 (3 ECTS)

Master's degree year 1 - semester 2

Modelling and data base (4 ECTS)
Graphs theory and algorithms (4 ECTS) including:
** Graphs theory and algorithms 1 (2 ECTS)
** Graphs theory and algorithms 2 (2 ECTS)
Digital transmission (4 ECTS)
Real-time embedded systems (4 ECTS)
Local industrial networks (4 ECTS)
Industrial sensor networks (4 ECTS)
Distributed systems: initiation (3 ECTS)
English 2 (3 ECTS)

Master's degree year 2 - semester 1

Advanced digital methods (3 ECTS)
Data processing and machine learning (5 ECTS)
Knowledge representation (3 ECTS)
E-health technologies (3 ECTS)
Documentary research and communication (2 ECTS)
Seminars and project (5 ECTS)
Option (6 ECTS), choose between:
* Robotics for mobility assistance and rehabilitation (6 ECTS)
* E-health applications and communication systems and networks (6 ECTS)
Option (3 ECTS), choose between:
* Ubiquitous system and ambient intelligence (3 ECTS)
* Assisting cognitive robotics (3 ECTS)

Master's degree year 2 - semester 2

Intership (30 ECTS)