Photonics, images, communication, signal, light sciences (PICSEL)

Presentation

Learning objectives

ICSEL aims to train engineers who can meet the needs related to the emergence of the digital society: explosion of embedded systems, communicating objects, growing needs in transmission and processing of information, multiplication of smart devices, growing importance of digital simulation, development of new manufacturing technologies, … The sciences related to the themes of PICSEL are part of the 6 Key Enabling Technologies (KETs) identified by the European Commission, which considers them to be the main drivers of innovation.

Description of the programme

To meet these challenges, PICSEL proposes a program mainly based on electives that will allow students to build personalized paths centered on Photonics and Information and Communication Sciences, with strong skills in the key areas of imaging and photonics, and an in-depth knowledge of the underlying physics.

Generic central skills and knowledge targeted in the discipline

Photonics, Image, Communication and Signal technologies are characterized by their ability to irrigate a large number of industrial sectors and application areas, as well as their high R&D intensity. They feed very competitive and fast-growing markets (environment, health, automotive, aeronautics, etc.), and cover various fields such as connected systems, autonomous vehicles, virtual reality, medical imaging, etc.

In these sectors, the PICSEL engineer will be able to address both the management of complex projects thanks to his or her generalist skills and vision of the field, as well as cutting-edge R&D thanks to his or her conceptualization and problem-solving skills, and a mindset trained in innovation.

Total des heures **0h**

List of courses

	Nature	CM	TD	TP	Crédits
Temps 3	Module				
Quantum Engineering and Emerging Technologies	Module	50h	24h	10h	8
Embedded systems	Module	40h	20h	40h	8
Space Technologies	Module				8

	Nature	CM	TD	TP	Crédits
Projet PICSEL	Module				5