SHAKE THE FUTURE.

CENTRALE NANTES

## 2ND AND 3RD YEAR SPECIALISATION

# CONNECTED HOME FOR HEALTHCARE

Training engineers to successfully undertake major projects in complex environments. An innovative teaching method that places students directly in a professional environment, allowing them to acquire both technical and operational skills.
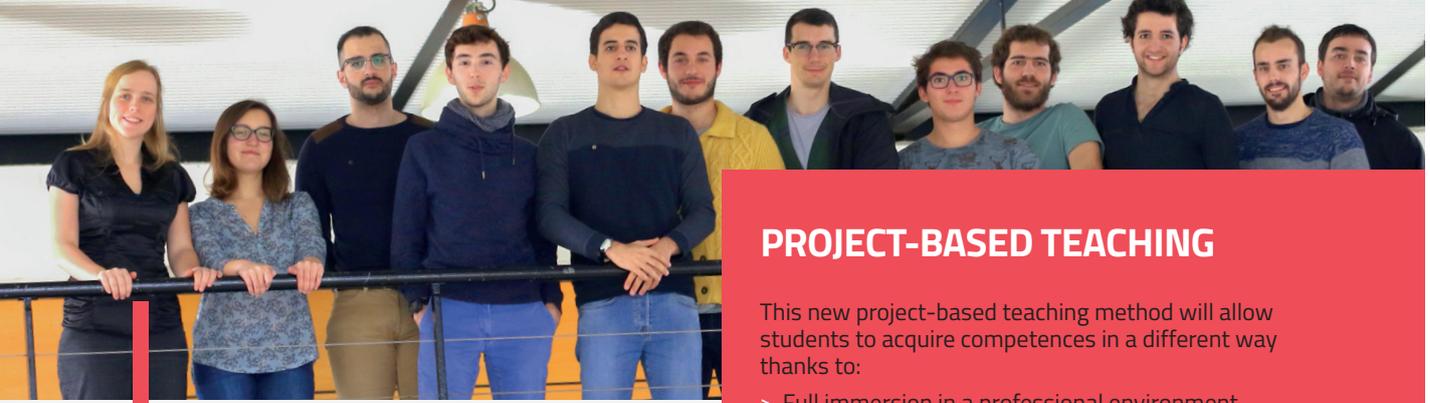


SALLE DE BAIN

## COURSE CONTENT

### PROJECT

Provide a prototype of a connected home for healthcare:

> Improved remote detection and monitoring of pathologies (healthcare data representations, modelling, optimization, big data tools, etc)

> Adaptation of sensors to patients and healthcare data (connected objects adapted to pathologies and patients, universal design, etc)

> Securing medical data (storage, transfer, confidentiality etc)

> Acceptance of connected devices (human-machine interface, psychology, ergonomics etc)

> Study of the global system of remote health monitoring (ethics, policies, public finances, organization, system etc)

A pedagogical solution to meet each requirement!

## PROJECT-BASED TEACHING

This new project-based teaching method will allow students to acquire competences in a different way thanks to:

> Full immersion in a professional environment
> A customized training programme
> Agile and autonomous organisation
> Dedicated platforms at Centrale Nantes and Nantes University Hospital
> Tailored support
> An opportunity for concrete action on a major public healthcare project

## INDUSTRY SECTORS

> Health
> New technologies
> Bio-informatics
> Consultancy
> Company organization
> Social
> …

## SKILLS

> Project management
> Change management
> Dealing with complexity
> Creativity
> Teamwork

## PROJECT DELIVERABLES

> A connected home concept: principle, ethical considerations, collection and processing system for medical data, etc
> A digital model to illustrate the concept
> A physical part prototype
> A draft business plan (financing, operations etc)
> Regular deliverables throughout the project (minutes, progress reports, plans etc)

## STUDENT FEEDBACK

"I chose to follow the Centrale Nantes project specialisation because from my point of view, as a student, the opportunity to take full part in a project conveys an open mind and a certain maturity.

Personally speaking, this immersion in industry 'taught me to learn differently'.

Working with healthcare professionals was a very rewarding personal and professional experience for me."

Aurélien S.

## TEACHING STAFF

**HEAD OF SPECIALISATION:**
Emilie Poirson & Morgan Magnin

**NANTES UNIVERSITY HOSPITAL:**
Thomas Lechevallier, Operations Director DSIN

**INDUSTRIAL PARTNERS:**
Bouygues construction, Philips France

**CONTACT:**
emilie.poirson@ec-nantes.fr

graduate programme | **Ingénieur** grande école