Digital Health

TAUGHT IN FRENCH

Dijon

/ AIMS

This major aims at training general engineers with a focus on electronics and computer science, specialised in acquiring and processing data in the Digital Health sector.

/ ACQUIRED SKILLS

At the end of the training, you will be able to understand the entire data chain; deploy artificial intelligence solutions to problems in the healthcare sector; identify standards related to medical data, its storage and exploitation; work on the development of a hospital information system; develop a smart medical device; work with health professionals on a daily basis.

/ CAREER OPPORTUNITIES

You will access positions such as:

- Project manager in charge of implementing Health Information Systems or new health modules interoperable with existing hospital information systems;
- Medical home automation engineer;
- R&D or software engineer in telemedicine or virtual reality for the medical sector;
- Artificial intelligence expert engineer in healthcare.

COURSE UNITS

/ SEMESTER 8

The course is based on 2 main areas:

- A core curriculum including Industry 4.0 and Smart-City majors with a balanced combination of hard sciences, data collection, processing and analysis;
- A 112-hour project related to the major chosen in S9.

Course Units common to all three majors:

- **Digital Health project:** 112h -10 ECTS
- **Data Science:** 28h - 3 ECTS
- **Instrumentation:** 28h - 2 ECTS
- **Internet of Things:** 28h - 3 ECTS
- **Big Data and Security:** 28h - 3 ECTS - The digital information cycle
- **Artificial Intelligence 1:** 28h - 3 ECTS - Methods and neural networks
- **Augmented Reality / Virtual Reality:** 28h - 2 ECTS
- **English:** 28h - 2 ECTS
- **Transversal Skills:** 28h - 2 ECTS

/ SEMESTER 9

The course is divided into 3 areas:

- A core curriculum with 3 Course Units to cover in depth the various scientific concepts related to collecting, processing, analysing and storing data
- A specific core of 5 Course Units related to the chosen major
- A 168-hour industrial final year project

Course Units common to all three majors:

- **Distributed Infrastructure:** 28h -2 ECTS
  Large scale infrastructures, Quality of Service, Cloud computing
- **Flow Optimisation:** 28h -2 ECTS Evolutionary Algorithms
- **Efficiency and Environment**: 28h - 2 ECTS
  Decision Support Systems (Predictive maintenance, diagnostics) / Energy and environment (Energy efficiency, Green IT)

Specific Course Units in Digital Health:

- **Information Systems / Hospital Information Systems:** 28h - 2 ECTS
- **Valuation of Data:** 28h -2 ECTS
- **AI Health Applications:** 28h -2 ECTS
- **Biology, Physiology, Anatomy / How University Hospitals work:** 28h -2 ECTS
- **Devices and Data:** 28h - 2 ECTS Connected medical device – The Internet of Things applied to the health field / Medical data – Data standards, deployment standards of a medical device
- **Final Year Project:** 168h - 14 ECTS