

- Unique degree in France
- Choice among 2 majors
- International mobility
- Research perspectives
- Relevant skills for industry
- Fast-growing sector

École d'ingénieurs

Télécom Physique Strasbourg

Information Technology for Healthcare Engineering degree

PURPOSES / SKILLS

The Engineers trained at *Télécom Physique Strasbourg* are creative and possess multipleskills, their mission being to meet the challenges of innovation in strategic sectors such as Information and Science and Technology as well as Applied Physics.

The specialized degree in Information Technology for Healthcare trains our future Engineers for the substantial challenges related to the Healthcare industry, thus meeting a growing need. Several disciplines are involved: Medical Robotics, Imaging, Micro and Nano Systems, Synthetic Biology and Biosensors, Biomechanics and Digital Simulation.

The educational project enables our graduates to acquire skills that are essential to their professional success. They primarily consist in:

- mastering Information Technology tools
- piloting and managing projects
- acquiring entrepreneurial skills
- developing professional expertise at the international level

CAREER PROSPECTS

- First employment average gross salary: 36 k€ annually*
- Average job search time after graduation: less than 2 months for 86% of graduates

* 2018 year group as of February 2019

(Conférence des Grandes Ecoles "Young Graduates" survey in 2019)

Department of Biomedical Engineering

JOBS

- Research and Development (R&D) Engineer
- Research Engineer
- Consulting Engineer
- Product Engineer
- Commercial Engineer
- Quality Engineer

INDUSTRIES

- **Tools for medical and surgical gesture guidance:** medical imaging technologies, digital simulation, robotic assistance and biomechanics
- **Biomedical instrumentation:** new analytical and therapeutic equipment, design of heterogeneous integrated microsystems, new processes and tools for the design of "smart" drugs



ADMISSIONS

First year pre-requisites

- A successful highly competitive national exam *Concours Mines-Télécom*
- Based on application, French or foreign diploma and successful interview, for applicants holding a technology degree / a scientific preparatory diploma / having completed second and third years of a Science and Technology degree / holding a degree equivalent to 120 European Credit Transfer System (upon completion of a basic cycle in Medical Studies)

Second year pre-requisites

- Based on French or foreign diploma and successful interview, for applicants holding a Bachelor's degree (or completed a first-year Master's course) in Physics or Engineering (Electronics, Control Theory)

COURSES

Year	1	2	3
Core curriculum	<ul style="list-style-type: none"> ➤ Mathematics and Signal Processing ➤ Electronics and Systems Engineering ➤ Human Sciences 	<ul style="list-style-type: none"> ➤ Mathematics and Signal Processing ➤ Computer Science ➤ Microcontroller ➤ Instrumentation and Measurements ➤ Control theory ➤ Image and Vision ➤ Human Sciences 	<ul style="list-style-type: none"> ➤ Human Sciences ➤ Quality ➤ Ethics and Bioethics
Tracks	<ul style="list-style-type: none"> ➤ Physics and applications to Healthcare ➤ Biomechanics ➤ Anatomy / Physiology ➤ Biophysics 	<ul style="list-style-type: none"> ➤ Computer Vision ➤ Medical Image Processing ➤ Physics for Healthcare ➤ Digital Simulation ➤ Microfluidics ➤ Microsystems ➤ Microelectronics ➤ Biology ➤ Medical and Surgical Procedures ➤ Embedded Electronics 	Choice among 2 majors <ul style="list-style-type: none"> ➤ Diagnosis and Innovative Medical Treatment: Robotics, Image and Vision; Modeling and Simulation of living systems; Computer Science; Therapeutic Systems ➤ Innovative Therapies: Biotechnology and Nanosciences: Instrumentation, Detection and Analysis; Heterogeneous Integrated Systems and Medical Microsystems; Biological Engineering
Engineering Project	➤ 4 to 5 students / 1 research institute / 100 hours per student	➤ 4 to 5 students / 1 company / 100 hours per student	
Internships	➤ 4 weeks of job shadowing	➤ 12 weeks of practical internship	➤ 20 weeks on final year project
Dual Master's degrees		➤ Imaging, Robotics and Biomedical Engineering (1st year of Master's)	<ul style="list-style-type: none"> ➤ Master of Imaging, Robotics and Biomedical Engineering ➤ Master of Micro and Nano Electronics

PARTNERS

- CNRS (National Center for Scientific Research), *Ecole Supérieure de Biotechnologie de Strasbourg*, Medicine and Pharmacy Faculties of the University of Strasbourg, IHU (Hospital University of Strasbourg), IRCAD (Research Institute Against Digestive Cancer), ICube research institute, *Alsace Biovalley* excellence cluster, etc.
- Degree created in collaboration with the *Institut Mines-Télécom* group

MOBILITY

- Minimum of 12 weeks in a foreign country and 2 mandatory foreign languages (B2 level required in English)
- Possibility of one complete academic year abroad
- Bilateral agreements and exchange programs with 40 international partners

FURTHER STUDIES

- PhD, Masters in Economics and Management (the related MBA course is offered by the Business School of Strasbourg), MBA, etc.

Contacts

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