ESIX Normandy is the Graduate School of Engineering of the University of Caen Normandy. It offers three engineering study programs:

Food Sciences in Caen, **Industrial Engineering** in Cherbourg and **Mechatronics and Embedded Systems** in Caen.

These 3-year study programs are all approved by the French Engineering Accreditation Institution and they are equivalent to a Master's Degree. The training courses, which have been designed to meet the industrial needs, rely on numerous research laboratories of the University and collaborate closely with local companies.

The training is built on an inter-disciplinary approach based on entrepreneurship and projects, Fab Labs work, internships in technological halls and industry, and active training in two foreign languages.

Thanks to 70 teacher-researchers and more than 120 industrial speakers, ESIX Normandy graduates more than 150 engineers per year.

ESIX STUDENT LIFE

ESIX Normandy enables students to develop their management and communication skills through numerous clubs and associations: 4L trophy, Shell Eco-marathon, theater, robotics, sailing, and many other sporting, cultural and charity activities.

Every year, several events are organized on the University campuses such as a weekend to welcome new students, inter-schools sports trophies, and the ESIX gala.

The student can enjoy the extensive facilities of the University: student housing, restaurants, sport facilities and libraries located in both campuses of the school in Caen and Cherbourg.

CONTACT US

ESIX NORMANDY | INTERNATIONAL RELATIONS OFFICE

Campus of Cherbourg-en-Cotentin

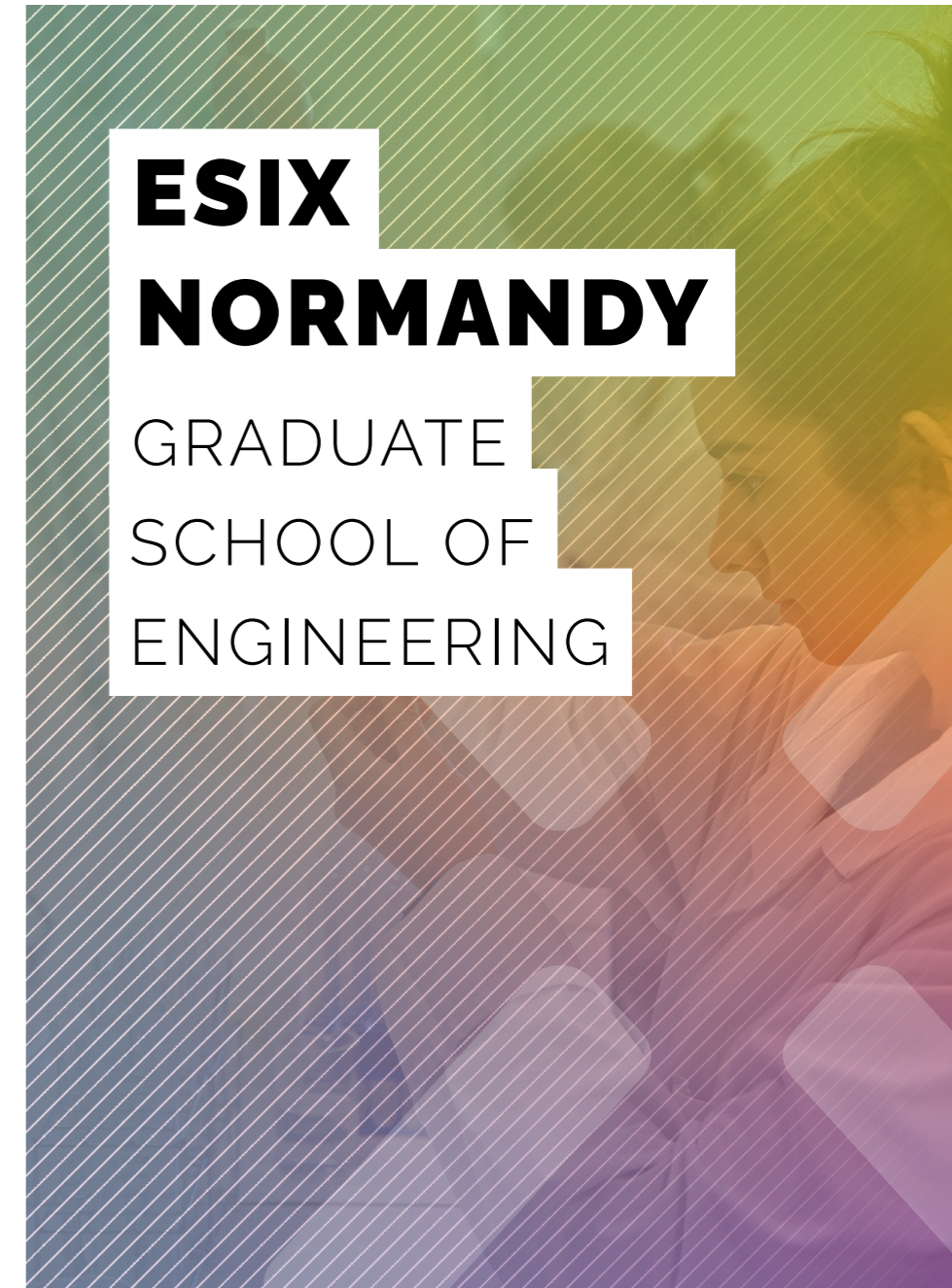60 rue Max-Pol Fouchet - CS 20082 - 50130 Cherbourg-en-Cotentin

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ESIX NORMANDY

GRADUATE SCHOOL OF ENGINEERING

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UNIVERSITÉ CAEN NORMANDIE

FOOD SCIENCE

With 50 years of experience, the Food Science program has developed strong links with a large number of companies. Specialized in Production, Quality and R&D, our students are trained to become field engineers able to manage operations and to innovate in different agri-food sectors: meat, milk and seafood industries, health and nutrition, animal feed etc.

CURRICULUM :

• Food Sciences.
• Industrial sciences: automated systems, fluid mechanics, applied mathematics.
• Food industrial engineering.
• Project management : English, second language, communication, innovation approach, industry business, entrepreneurship.

• Technology and processes of food supply chains (Milk, Meat, Aquatic products and Plant industries).
• Quality, security and environment in food sector.
• Project management: English, second language, communication, knowledge of innovation and industry business, entrepreneurship.

• Industries and supply chains of the future.
• Innovation in food.
• Project in partnership with the food industry.

INDUSTRIAL ENGINEERING

Since 1993, the Industrial Engineering program trains students to become field engineers able to manage production whatever the process implemented in the company.
Two specializations are offered after the first year of study: Industrial Production and Nuclear Operations.
The specialization in Industrial Production offers two options: Controlled Environment and Marine Renewable Energy, to understand and resolve problems of the process and anticipate technological evolutions. The specialization in Nuclear Operations trains engineers to be immediately operational and take part in the different stages of building, modifying, maintaining and dismantling nuclear plants.

CURRICULUM :

Common subjects (1st year) :
• Mathematics, solid and fluid mechanics, electricity & electronics, programming, material sciences, sustainable development, economic intelligence.

Industrial Production (2nd and 3rd year) :
• Usual features of the production line: applied mechanics & hydraulics, automation, robotics, electrical engineering, computing, materials, chemistry.
• Production process: industrial economy, performance management, environment safety, quality, virtual reality training.
• Marine renewable energy: sea power, energy storage, offshore wind energy, tidal energy, supply chain, longevity and control.
• Controlled environment: working conditions, risk management, air quality, surface quality.

Nuclear Operations (2nd and 3rd year) :
• Guarantee the technical quality of nuclear studies and construction sites: physics, chemistry, materials and mechanics.
• Guarantee the operating safety of all installations and construction sites as well as the safety of workers and the environment quality: risk management, health and safety radioprotection, security.
• Economy and project management.
• Work in a nuclear, industrial and international sector: foreign languages, management and ethics.

MECHATRONICS AND EMBEDDED SYSTEMS

The Embedded Systems program was created in 2014. It trains engineers to be proficient in R&D of complex systems combining mechanics, electronics, control and command, microprocessors and computer science. Two specializations are offered after the first year of study: Mechatronics and Distributed and Mobile Systems.

Mechatronics and Embedded systems engineers collaborate in the conception and design of intelligent and connected embedded systems, used as mobile devices. Such systems are a major issue in the automobile industry, aeronautic and more generally in the transportation industry. They are the basis of all technologies used in smartphones, drones or renewable energies.

CURRICULUM :

1st year : Core curriculum
• Project management: English, second language, communication, knowledge of innovation and industry business, entrepreneurship.
• Embedded systems: modelling and controlling embedded systems, hardware/software, 8bits and 32bits microcontrollers, edge computing, CPU, GPU, Arm, Intel, Android, embedded Linux, OS, RTOS.

Mechatronics
• Mechanics of complex systems: modelling, structures dynamics, vibrations.
• Analogical systems: low noise electronical design, identifying and controlling systems, energy harvesting.

Distributed and mobile systems
• Low-level computing: network, smart grids, Bluetooth, M2M, specialized microcontrollers.
• Mobile computing: conditional and optimal computer programming, mobile and geolocalised systems, distributed algorithms and security details.