eseo

GRADUATE SCHOOL OF ENGINEERING

Course Prospectus

✅ 2025-2026

Eseo is a comprehensive **electronic and computer engineering** school founded in 1956 in Angers, France. Since 1962, it has continuously been accredited by the "Commission des Titres d'Ingénieurs" - CTI (French national commission on engineering degrees) and as such was awarded the **EUR-ACE** (EURopean Accredited Engineer) label which is the equivalence «Master» to the «Engineering Diploma». Eseo is a member of the "Conférence des Grandes Écoles - CGE"; a French national institution that counts all the engineering institutions accredited by the CTI as its members.

Eseo is an **international higher education school**. It has 3 campuses in France (Angers, Paris-Vélizy and Dijon), partner sites abroad and a large network of international academic and industrial partners.

Each year, some **200 Eseo students graduate** with the French **"Diplôme d'Ingénieur"** after having gained scientific, technical, technological, economic, organisational and strategic skills in the field of electronics and computer engineering. The school is recognised by companies as one of the best in its fields and our students have a wide range of career opportunities once they graduate.

70
Years old, founded in 1956
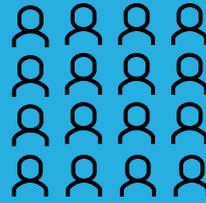
1 200
students

MSc in Engineering & PhD

7 800
Alumni

50
Double Master Degrees incl. 40 intl

45
Researchers

80
Permanent teachers

98%
Employment in 6 months

Campus ESEO Angers

The ESEO Angers campus is ideally located and served by the tramway. It is close to a wide range of accommodation and amenities such as university residences, university restaurants and shops.

The French Tech label and the hosting of the World Electronic Forum have established Angers and the Western part of France as a reference point in our country and Europe for electronics, digital technology and the Internet of Things. Smart City and transportation, connected agriculture are the major economic and societal challenges facing Angers. The city and its suburbs have invested 100 to 150 million euros to become a model smart city.

Campus ESEO Paris-Vélizy

The ESEO Paris-Vélizy campus is perfectly served, close to all amenities and located in the heart of the leading high-tech business area in the Paris region. It is an ideal environment for studying new technologies.

ESEO works with the worldwide recognised innovation cluster of Paris-Saclay on actions such as Paris-Saclay Spring. This event gathers all the key players of innovation, research and science who join forces to showcase scientific excellence and the best in technological innovation. The Ile-de-France scientific and technical cluster is ranked among the eight most powerful in the world along with Silicon Valley, Boston and Tech City London, and accounts for 15% of French public and private research.

Campus ESEO Dijon

ESEO Dijon is located in a brand new campus which the Dijon agglomeration supports as part of the major «On Dijon» project for a smart city. It is situated on the university campus and is easily accessible and close to housing and amenities.

Dijon aims to become the first French Smart City with its local innovation approach, i.e. «Dijon smart and connected city». The very purpose is to put digital technologies at the service of humans, thereby offering great prospects to ESEO students and graduates who wish to contribute to building the metropolis of the future.
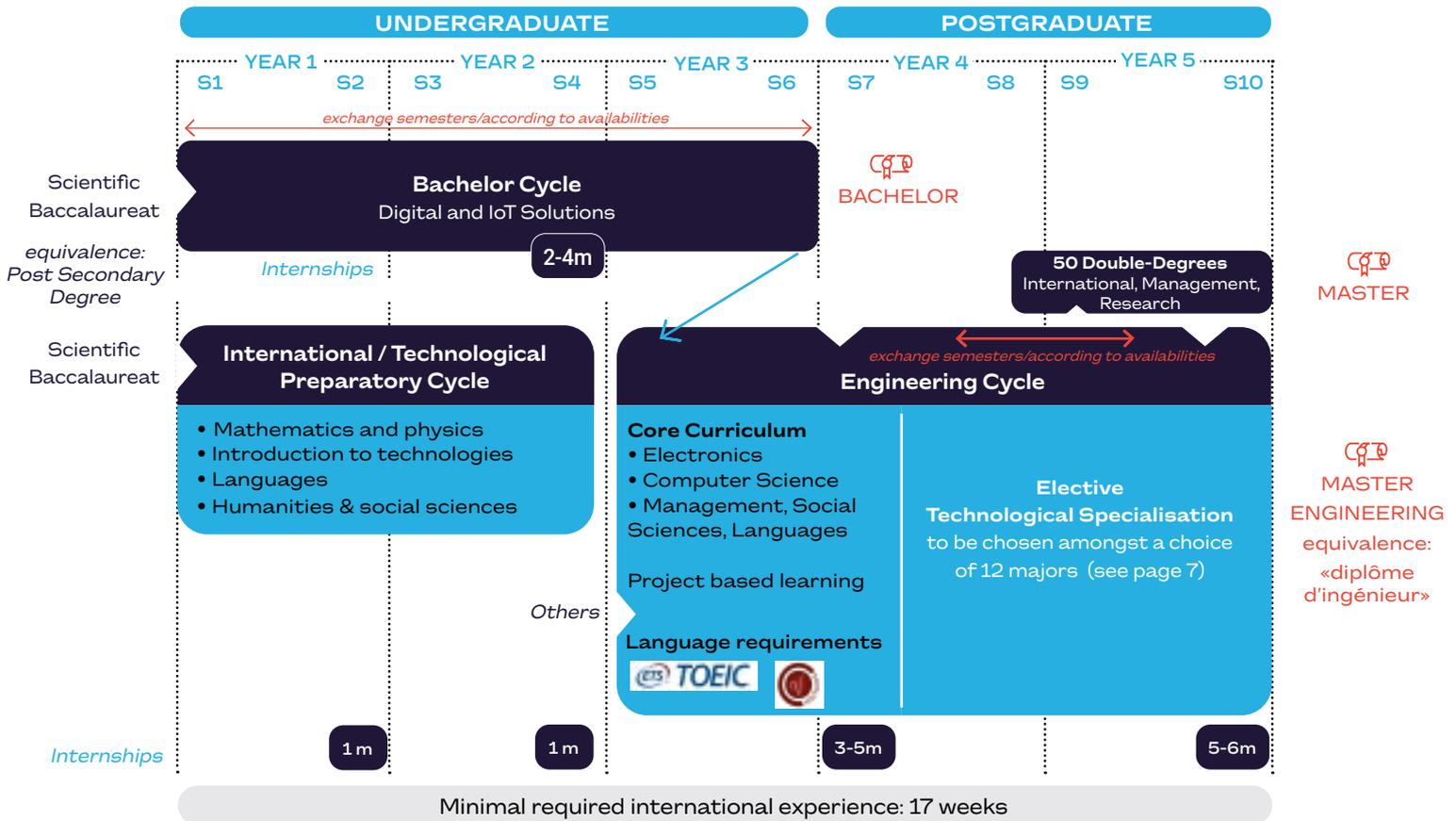
STUDY

✅ **UNDERGRADUATE**

• 3-year Bachelor programme
• 2-year Preparatory Cycle (Compulsory for the Engineering Programme)

✅ **POSTGRADUATE -** "Diplôme d'Ingénieur" (equivalence: Master in Engineering) programme

We believe that practice is a motivating and efficient means of teaching technological and technical subjects.
For this reason, a number of technical and scientific courses in both our programmes follow a project-based learning approach.

	UNDERGRADUATE			POSTGRADUATE	
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	S1 S2	S3 S4	S5 S6	S7 S8	S9 S10

exchange semesters/according to availabilities

Scientific Baccalaureat

Bachelor Cycle
Digital and IoT Solutions

2-4m

🎓 **BACHELOR**

Internships

equivalence: Post Secondary Degree

50 Double-Degrees
International, Management, Research

🎓 **MASTER**

Scientific Baccalaureat

International / Technological Preparatory Cycle

• Mathematics and physics
• Introduction to technologies
• Languages
• Humanities & social sciences

Engineering Cycle

exchange semesters/according to availabilities

Core Curriculum
• Electronics
• Computer Science
• Management, Social Sciences, Languages

Project based learning

Others

Language requirements
TOEIC

Elective Technological Specialisation to be chosen amongst a choice of 12 majors (see page 7)

🎓 **MASTER ENGINEERING**
equivalence: «diplôme d'ingénieur»

Internships   **1 m**   **1 m**   **3-5m**   **5-6m**

Minimal required international experience: 17 weeks

CONTENT

UNDERGRADUATE

Paris-Vélizy

Angers

Dijon

Programmes subject to change

BACHELORS

Bachelor Computer Science & Electronics

📍 **ANGERS**

TAUGHT IN FRENCH

Semester 1
- ✓ **Sciences:** 9 ECTS
- ✓ **Algorithmic & Pyhton:** 5 ECTS
- ✓ **Electronics:** 8 ECTS
- ✓ **Humanities & Social Sciences:** 3 ECTS
- ✓ **Languages:** 5 ECTS

Semester 2
- ✓ **Sciences:** 6 ECTS
- ✓ **Algorithmic & Pyhton:** 4 ECTS
- ✓ **Electronics:** 13 ECTS
- ✓ **Humanities & Social Sciences:** 3 ECTS
- ✓ **Languages:** 4 ECTS

Semester 3
- ✓ **Sciences:** 5 ECTS
- ✓ **Software Engineering :** 12 ECTS
- ✓ **Electronics:** 8 ECTS
- ✓ **Humanities & Social Sciences:** 3 ECTS
- ✓ **Languages:** 2 ECTS

Semester 4
- ✓ **Electronics:** 6 ECTS
- ✓ **Engineering :** 1 ECTS
- ✓ **Software Engineering:** 3 ECTS
- ✓ **Internship:** 21 ECTS

Semester 5
- ✓ **Sciences:** 8 ECTS
- ✓ **Software Engineering :** 9 ECTS
- ✓ **Electronics:** 9 ECTS
- ✓ **Humanities & Social Sciences:** 2 ECTS
- ✓ **Languages:** 2 ECTS

Semester 6
- ✓ **Internship:** 30 ECTS

PREPARATORY CYCLE
PROGRAMME

TAUGHT IN FRENCH
with some units in English in S4

This 2 years Preparatory Cycle is designed for students wishing to enter the Engineering Cycle. It provides the required scientific bases.

Semester 1 & 2

	TECHNOLOGICAL	
	S1	S2
⊘ **Mathematics & Computer Science**	10 ECTS	10 ECTS
⊘ **Digital Electronics**	4 ECTS	5 ECTS
⊘ **Physics, Analog Electronics & Engineering Sciences**	9 ECTS	8 ECTS
⊘ **Languages / International**	4 ECTS	4 ECTS
⊘ **Humanities & Ecological Issues**	3 ECTS	3 ECTS

Semesters 3 & 4

Further scientific education, further languages practice, experiencing life abroad.

	TECHNOLOGICAL		INTERNATIONAL	
	S3	S4	S3	S4
⊘ **Mathematics & Computer Science**	10 ECTS	7 ECTS	Min 5 ECTS in Mathematics	
⊘ **Digital Electronics**	3 ECTS		Min 10 ECTS in electronics and/or Computer Science	
⊘ **Physics, Analog Electronics & Engineering Sciences**	10 ECTS	7 ECTS		
⊘ **Languages / International**	4 ECTS	2 ECTS	(*)	
⊘ **Humanities & Ecological Issues**	3 ECTS	2 ECTS		

⊘ **Internship:** 12 to 20 weeks from mid April to mid August

(*) Takes place abroad at one of our University Partners.

The Fields of an ESEO Engineer
Information & Communication Technologies

WHOLE SPECTRUM OF ELECTRONIC & COMPUTER ENGINEERING

- ✅ **From Components to Systems & Communication**
- ✅ **From Hardware to Software**
- ✅ **From Analogue to Digital**
- ✅ **From Micro to Power Electronics**

MASTER IN ENGINEERING

ANGERS

Cloud, System & Security
Data, instrumentation, signal & application 🇬🇧 (partially lectured)
Energy & Environment,
Software & Data
Electronics & IoT 🇬🇧 (partially lectured)
Embedded Systems

PARIS-VÉLIZY

Artificial & Data Intelligence
Business Engineering

DIJON

Digital Health
Smart City
Industry 4.0

ENGINEERING CYCLE CORE CURRICULUM

📍 ANGERS

📍 PARIS-VÉLIZY

📍 DIJON

TAUGHT IN FRENCH

Semester 5

Electronics 7 ECTS

- Initial Training in Technical Systems Implementation
- Analog Electronics
- Switching Circuits
- Introduction to Life Cycle Analysis and Eco-design
- Radiofrequency Electronics

Infrastructure, Networks, Data & Web 7 ECTS

- Network
- Infrastructure
- Database
- Web
- Digital Responsibility

Embedded Systems & Digital Electronics - 6 ECTS

- Embedded programming
- Digital Circuit Design

Tools for Modeling Signals, Systems & Data - 4 ECTS

- Automatic Project & Instrumentation Chain
- Probabilities
- Statistics
- Signals & Systems

Humanities & Languages - 6 ECTS

- English
- Communication
- Learning to Learn
- Commitment

Semester 6

Embedded Systems & Digital Electronics - 8 ECTS

- Digital Embededed Electronic Project
- Introduction to Programming with Operating system
- Computer Architecture

Software Developpment - 8 ECTS

- Object-oriented Programming
- Data structure
- Modeling
- Software testing
- Projects

Tools for Modelling Signals, Systems, and Data - 6 ECTS

- Mathématical Tools for Signal Optimization
- Digital Image Processing
- Digital Signal Processing
- Data Science
- Electrical Engineering Project

Humanities & Languages - 8 ECTS

- English
- Project Management
- Project
- Commitment
- French Proficiency Test

Semester 7

- **Technical Internship***
4 to 5 months – 18 ECTS
Between July and November

*Students joining ESEO at semester 7 will have dedicated courses between September & November

- **Languages, Communication -** 3 ECTS
- **Professionnal environment & life** 3 ECTS
- **Management -** 3 ECTS
- **Environmental & social impacts** 1 ECTS
- **Technical project** - 2 ECTS

Semester 8

COURSES FROM CHOSEN MAJOR
page 9 to 20

Semester 9

COURSES FROM CHOSEN MAJOR
page 9 to 20

Semester 10

FINAL YEAR INTERNSHIP
5-6 months - 30 ects

CLOUD, SYSTEM & SECURITY

AIMS

The Cloud, System and Security major aims at training ESEO engineers to facilitate the transition of corporate information systems to «Cloud Computing». This change implies circulating data, storing it and provisioning the appropriate resources to process it. The IT infrastructure is dematerialised and should provide on-demand services at the infrastructure (IaaS: Infrastructure as a Service), platform (PaaS: Platform as a Service) or application level (SaaS: Software as a Service).

The aim is to meet the needs of modern applications in terms of adaptability in a quick and efficient manner. The protection of information systems facing the growing number of new threats like cyber-attacks is a vital component of this major.

ACQUIRED SKILLS

You will acquire skills in designing, implementing and integrating a reliable and secure information system. You will have a full understanding of the information system combined with issues of hardening services and virtual infrastructures, such as defining the issues and benefits and identifying the impacts on design and operational management.

CAREER OPPORTUNITIES

An Information System is a key component for many companies. The engineer will be able to manage a company's Information System, either as an IT services company provider or as the in-house technical manager. A CSS engineer's skills can further develop into technical expertise, pre-sale as a technical sales engineer, and lead to positions as Chief Information Officer.

COURSE UNITS

Semester 8

- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Cloud Computing Project:** 9 ECTS
- **Cloud, System & Computing Managament:** 5 ECTS
- **Infrastructure:** 6 ECTS
- **Verification:** 5 ECTS

Semester 9

- **Final Year Project:** 13 ECTS
- **Commun base in Cloud, System & Security:** 15 ECTS

+ 6 selected Course Units:

12 ECTS (each Course Unit = 2 ECTS)

- Cryptography
- Offensive Security
- IT Security Audit
- VMWare Infrastructure
- Openstack in Cloud Computing
- Docker Containerisation / K8s
- Data Exchange Security

DATA, INSTRUMENTION, SIGNAL & APPLICATION

TAUGHT
IN FRENCH/ENGLISH
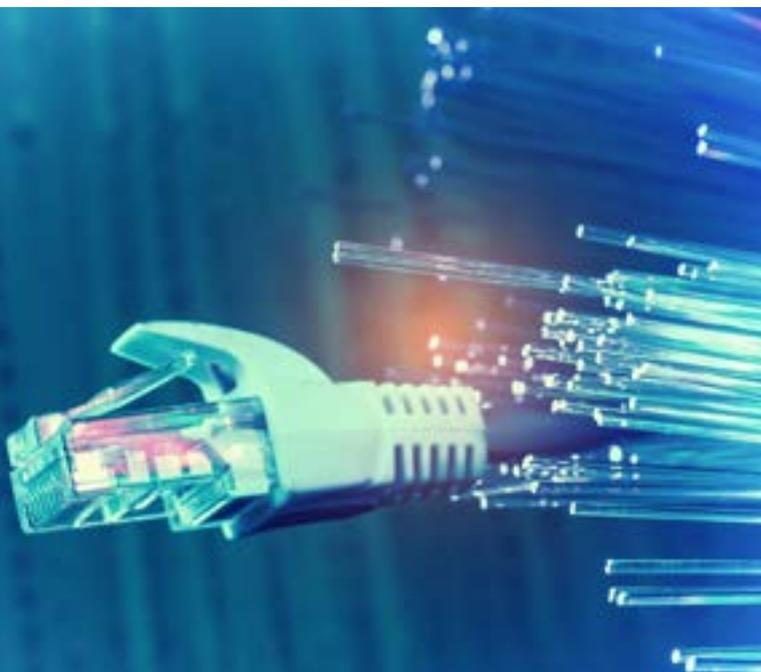
AIMS

The DISA major is divided into two tracks: Biomedical track and another dedicated to Multimedia and Telecommunications. The core curriculum of this major allows engineering students to strengthen their knowledge in signal processing, image processing, and data processing, through results obtained by the application of instrumentation techniques.

Biomedical Track: This track applies general techniques to physiological signals and data. It also introduces specific vocabulary for the field and provides a state-of-the-art overview of the normative specificities of applications.

Multimedia and Telecommunications Track: This track extends general techniques to more specific areas: digital telecommunications, software-defined radio, industrial vision, video compression, and adaptive filtering.

ACQUIRED SKILLS

This multidisciplinary major and its tracks are built on the foundational knowledge of the school's core curriculum.
Signal processing, image processing, and data processing form the core of the taught content. Tools such as neural networks, optimization, machine learning, and deep learning are utilised to analyse data and signals derived from instrumentation.

Simulation tools and specific programming languages are also covered to enhance the aforementioned analyses (LabView, Python, Matlab/Simulink, etc.).
For more specific fields, particularly in the Biomedical field, the focus is on normative aspects and, where applicable, legislative aspects.

CAREER OPPORTUNITIES

The training offered provides access to numerous fields:

• Artificial Intelligence
 (machine learning, deep learning)
• Image, video, sound, multimedia
• Aeronautics and space
• Telecommunications
• Measurement, sensors, & instrumentation

• Biomedical engineering
• Academic and industrial research
• Consulting
• Technical sales

COURSE UNITS

Semester 8
- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Digital Image Processing:** 4 ECTS
- **Random Processes:** 2 ECTS
- **Digital Signal Processing:** 2 ECTS
- **Data Processing:** 4 ECTS

Semester 9
- **Industrial Project:** 18 ECTS
- **Useful programming Languages:** 4 ECTS
- **Deep Learning:** 4 ECTS
- **Application Projects:** 4 ECTS
- **Medical Imaging:** 4 ECTS

ENERGY & ENVIRONMENT

AIMS

This major aims at training engineers in electronics and computer science in the fields of energy and environment.

ACQUIRED SKILLS

As a student in this major, you will be able to understand and address energy issues, control, monitor and optimise energy consumption, and make digital technologies accessible to the energy sector.

You will acquire a range of scientific, technical and managerial skills based on an industrial approach of production, material and energy conversion, process control and monitoring. You will be aware of the political, economic, geopolitical and regulatory issues in the fields of energy and environment, as well as those in industrial ecology, life cycle assessment, material and energy recovery techniques.

CAREER OPPORTUNITIES

The sectors of activity are extremely varied and concern large industrial groups as well as small companies, design offices, local authorities and research centres.

You will access positions such as Renewable Energy Engineer, Energy Efficiency Engineer, Designer of Intelligent Electrical Grids; Design and Development Engineer; Operations Manager; Methods and Industrialisation Engineer or Audit Certification Engineer and many more.

COURSE UNITS

Semester 8

- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Control Engineering & Data Processing:** 5 ECTS
- **Acquisition System:** 5 ECTS
- **Energy transition & its challenges:** 5 ECTS
- **Energy Conversion:** 5 ECTS
- **Electrical System:** 5 ECTS

Semester 9

- **Final Year Project:** 12 ECTS
- **Electrical Engineering:** 3 ECTS
- **Clean Energy:** 4 ECTS
- **Measurement, Optimization and Control:** 4 ECTS
- **Energy Management:** 4 ECTS
- **Conferences:** 1 ECTS
- **Energy Harvesting:** 2 ECTS

SOFTWARE & DATA

AIMS

The aim is to train operational engineers in the engineering and management of information systems. Their training prepares them to be the key players in the development of future applications of information and communication technologies (ICT).

ACQUIRED SKILLS

The software and data engineer is capable of designing a software solution based on a client's specifications, taking into account the technical constraints related to the prevailing technological environment, and of building a comprehensive software product that conform to quality standards and meets the requirements. The ESEO Engineer is also capable of managing an entire project with agility, from planning to team management.

CAREER OPPORTUNITIES

After completing their training, engineers who have followed this major often start their activity as development engineers, product engineers, junior consultants, technical sales engineers, and many others. They subsequently move on to jobs as technical experts, software architects, project managers, information systems security managers (ISSM), information systems directors (ISD), and more.

Companies in the industrial and tertiary sectors, such as design, consulting, service and engineering companies, software publishers and solution integrators offer a large number of positions matching all these professions.

COURSE UNITS

Semester 8

- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Software Engineering Project:** 13 ECTS
- **Relation Databases & Web Architectures & Technologies:** 4 ECTS
- **Decision support tool & Bio inspired Computing:** 2 ECTS
- **Management & Information Systems:** 2 ECTS
- **Test:** 2 ECTS

+ 1 Course Unit from:
- **Web technology & Continous Integration:** 2 ECTS
- **Introduction to Security:** 2 ECTS

Semester 9

- **Final Year Project:** 14 ECTS
- **Object-Oriented Software Design:** 2 ECTS

+ 6 selected Course Units:
12 ECTS (each Course unit = 2 ECTS)
- Artificial Intelligence
- .Net Platform
- Android Programming Project
- Green Engineering
- Information systems and Business Strategy
- Advanced and noSQL Database
- Web Technologues and continous Integration
- Client-side Web Applications with React
- Hybrud Mobile App Development
- Software Quality
- Modern Data Stack
- Technology Watch

ELECTRONICS & IoT

AIMS

The IoT major aims at training ESEO engineers capable of designing, developing, integrating and implementing low-power connected electronic solutions. It will also enable them to understand how these systems interact with the surrounding IT environment such as networks and mobile applications. The large number of projects that ESEO offers leaves ample room for creativity.

ACQUIRED SKILLS

You will acquire skills in microcontroller-based and FPGA-based hardware development, in low-level embedded software development, in RF communication and RFID. You will also enhance your skills in selecting and implementing embedded communication protocols and understanding issues related to energy efficiency, security and mechanical integration. According to your taste, you will be offered to develop a basic mobile application and bind it to your product, to deepen your knowledge of embedded Linux or to specialise in Systems-on-Chip (SoC) and microelectronics.

CAREER OPPORTUNITIES

The targeted sectors for electronics and IoT students include not only IoT, but also professional and consumer electronics, automotive and aerospace. The wide range of acquired skills is also a significant asset for business creation.

COURSE UNITS

Semester 8

- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Connected-Object DEsign and Making:** 5 ECTS
- **EMC-Compliant Design:** 2.5 ECTS
- **Microwave Circuits:** 2.5 ECTS
- **Digital Circuits Design:** 2.5 ECTS
- **Protocoles des Objets Connectes:** 2.5 ECTS
- **Autonomie Énergétique:** 2.5 ECTS
- **CMOS Design Part 1:** 2.5 ECTS
- **CMOS Design Part 2:** 2.5 ECTS
- **From the Sensor to the Actuator:** 2.5 ECTS

Semester 9

- **Final Year Project:** 14 ECTS
- **Antennas and Software Radio:** 2 ECTS
- **Protocols for IoT:** 2 ECTS

+ 6 selected Course Units:
12 ECTS (each Course unit = 2 ECTS)

- Energy Harvesting
- System-on-a-Chip: Digital Part
- Multiphysics-Systems
- System-on-a-Chip: Analog Part
- Low-Level Security
- Advanced Processor Architectures
- Engineering of Communication Systems
- Android Development

EMBEDDED SYSTEMS

AIMS

This major trains ESEO engineers to be proficient in developing an entire embedded system, from specifications to completion, including the computing aspect. They will be able to discuss with specialists involved in the development from different fields, such as signal processing, automation, electronics, transmission, EMC and more. Embedded systems are hardly known to the general public today, but they are already very much a part of our daily lives. They are at the forefront of innovation in many key areas of the future! It is a fast-growing sector that has been experiencing a shortage of specialised engineers for several years. Engineers in this field are therefore highly sought after by many industrialists.

ACQUIRED SKILLS

At the end of their training, students will be capable of:

• identifying, that is understanding the client's expectations and needs,

• designing a system in collaboration with various specialists in the embedded field,

• implementing and testing the future system.

The aim is to provide a reliable and high performance product as expected by the customer. The implementation stage is focused on software development and the use of existing electronic components.

CAREER OPPORTUNITIES

Career opportunities are mainly found in all industrial sectors involving embedded systems, especially those with safety or security needs, such as the transport, defense and medical sectors, but now also in the fields of IoT, banking, telecoms, and many more. Not only are these opportunities to be found in development, testing and quality management positions, but also in positions related to management or trade activities.

COURSE UNITS

Semester 8

- **English:** 2.5 ECTS
- **Transversal Skills:** 2.5 ECTS
- **Embedded Systems Project:** 10 ECTS
- **Software Engineering for Embedded Systems :** 5 ECTS
- **Embedded Systems Programming:** 10 ECTS

Semester 9

- **Final Year Project:** 14 ECTS

+ 6 selected Course Units:
12 ECTS (each Course unit = 2 ECTS)

- Formal Modelling
- Embeddeb Linux Plateform
- RTOS Programming
- Safety Embedded of Systems
- Advanced Software Testing
- Efficient and Reliable Programming
- Embedded Systems Security
- Embedded Machine Learning
- Embedded Software Security
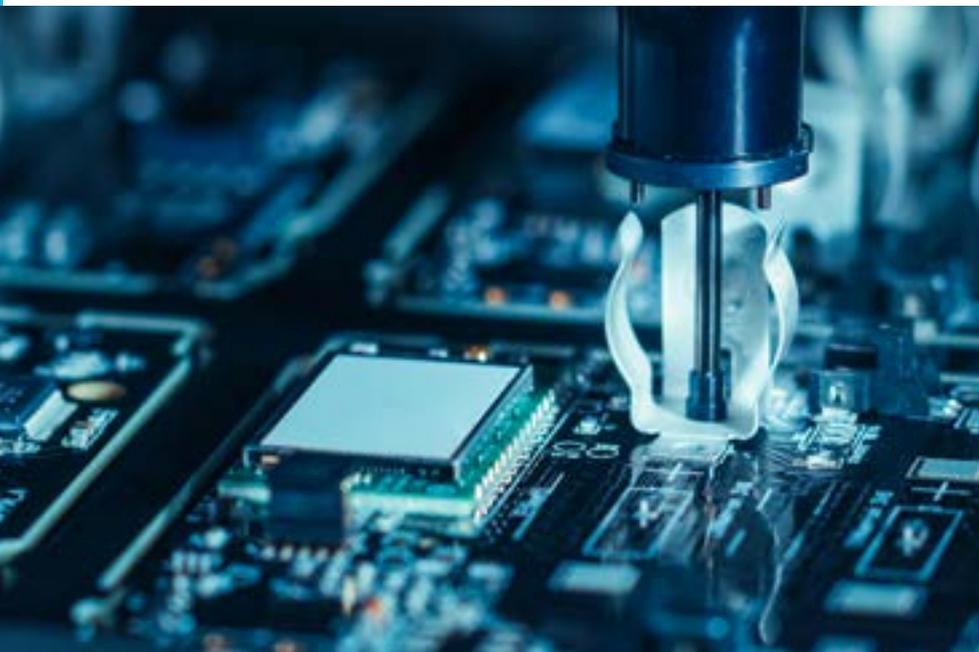
DATA & ARTIFICIAL INTELLIGENCE

TAUGHT IN FRENCH

AIMS

This major trains multi-skilled engineers in the field of artificial intelligence technologies. The wide range of course units covers the technological standards in force in industry as well as the scientific and technical bases of the domain. The curriculum is based on the implementation of application-oriented projects.

ACQUIRED SKILLS

As a student in this major, you will be able to critically implement recent machine learning models in the context of a specific topic such as decision analysis, pattern recognition, natural language processing, and many more besides. You will be proficient in the technical aspects of deploying models on a variety of computing architectures; parallel implementations, cloud computing, and embedded systems. Your scientific and technical knowledge will enable you to follow the constant evolution of models and technologies.

CAREER OPPORTUNITIES

Artificial intelligence technologies are in full development within companies of all sectors; Defense, transport, bio-medical engineering, finance and insurance. Companies in these fields are particularly interested in this type of profile. Depending on your background and interests, you will have access to different positions such as development engineer, research engineer, data scientist, consultant and many more.

COURSE UNITS

Semester 8

- **Transversal skills:** 5 ECTS
- **Data Management Systems:** 5 ECTS
- **Data Analysis and Machine Learning:** 7 ECTS
- **Data science Project :** 8 ECTS
- **Artificial intelligence (choice):** 5 ECTS
- **Big Data (choice):** 5 ECTS

Semester 9

- **Final Year Project:** 14 ECTS
- **Machine Learning: tools & applications:** 6 ECTS
- **Languages:** 1 ECTS
- **Artificial Intelligence:** 4 ECTS
- **Sciences & Technologies du Big Data :** 4 ECTS

BUSINESS ENGINEERING

AIMS

The major in Business Engineering and Project Management trains engineers to plan and execute a project in cooperation with a customer. Starting at the pre-sales stage the business engineer ensures the functional and financial follow-up together with the administrative and technical teams. The scientific and technical background of ESEO engineers' core curriculum provides them with a knowledgeable insight into the feasibility of the project and makes it easier to link with the development teams.

ACQUIRED SKILLS

After completing your training, you will be capable of:

• Steering, leading and managing a project in all its aspects whether it is technical, human or financial, in cooperation with the customer and other project stakeholders;

• Developing a business with a holistic view of the product life cycle;

• Negotiating with the project stakeholders by taking into account the constraints of the company and the customers;

• Making technological decisions and addressing their impact.

CAREER OPPORTUNITIES

You will access positions such as Business Engineers, Key account Engineers, Project Managers, Portfolio Managers and Pre-sales Engineers.

📍 **PARIS-VÉLIZY**

TAUGHT IN FRENCH

COURSE UNITS

Semester 8
- **Business Engineering Project:** 8 ECTS
- **Business Strategy:** 2 ECTS
- **Complex Sales and Negotiation:** 2 ECTS
- **Contract and Patent Law:** 0.5 ECTS
- **Public Procurement:** 1 ECTS
- **Data Governance and Regulation:** 1.5 ECTS
- **Advanced Database:** 2 ECTS
- **Network and IS Security:** 2 ECTS
- **Databases / Statistics:** 1.5 ECTS
- **Machine Learning:** 2.5 ECTS
- **Project Management:** 2 ECTS
- **English:** 2 ECTS
- **Transversal Skills:** 1 ECTS

+ 1 selected Course Unit : 2 ECTS

To be chosen from the elective course units listed below:
- Human Machine Interface (HMI)
- Biometry and Cybersecurity
- Operational Research

Semestre 9
- **Final Year Project:** 14 ECTS
- **Business Management:** 3 ECTS (14h taught in English)
- **HR Policy:** 2 ECTS
- **International Business:** 2 ECTS
- **Corporate Finance and BU Management:** 3 ECTS
- **Business Game:** 1.5 ECTS
- **Cloud Computing:** 1.5 ECTS
- **Distributed Computing:** 1.5 ECTS

+ 1 selected Course Unit: 1.5 ECTS

To be chosen from the elective course units listed below:
- Pentest
- Video Games and 3D Animation

DIGITAL HEALTH

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:

✓ **English:** 2 ECTS

✓ **Transversal Skills:** 2 ECTS

✓ **Connected Instrumentation:** 4 ECTS

✓ **Data Science & Artificial Intelligence:** 4 ECTS

✓ **Computer Vision:** 2 ECTS

✓ **Big Data:** 2 ECTS

✓ **Synthesis project:** 14 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:

✓ **Informatique Systems & Distributed Infrastructures:** 3 ECTS

✓ **Flow Optimisation:** 2 ECTS Evolutionary Algorithms

✓ **Augmented, Virtual & Mixed Reality**: 2 ECTS

Specific Course Units in Digital Health:

✓ **Health Ecosystems:** 3 ECTS

✓ **Artificial Intelligence:** 4 ECTS

✓ **Data & Innovation:** 2 ECTS

✓ **Final Year Project:** 14 ECTS

SMART CITY

AIMS

The major in Smart City aims at training ESEO engineers to be proficient in:

• Processing the data pipeline (from sensors to decision making)

• Collecting data with connected sensors or IoT;

• Transporting data through city networks;

• Optimising energy distribution by smart grid;

• Storing data on dedicated server or cloud/distributed infrastructures;

• Analysing data with Data Science, Artificial Intelligence or simulation.

The field is constantly expanding and requires not only strong technical expertise but also human skills like monitoring, involving municipalities and citizens, and many more besides.

ACQUIRED SKILLS

You will be capable of interpreting and using urban data, designing «smart» buildings with home automation and BIM. You will also be familiar with the various related technologies.

Furthermore, you will be involved in the development of the smart city and the design of the future urban solutions, such as optimising energy management, analysing city data, improving transport flows and providing solutions to new uses.

CAREER OPPORTUNITIES

You will have access to positions such as IT Project Manager, Systems Administrator, Design Engineer, Metropolitan Project Manager, Information System Analyst.

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:

- **English:** 2 ECTS
- **Transversal Skills:** 2 ECTS
- **Connected Instrumentation:** 4 ECTS
- **Data Science & Artificial Intelligence:** 4 ECTS
- **Computer Vision:** 2 ECTS
- **Big Data:** 2 ECTS
- **Synthesis project:** 14 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:

- **Informatique Systems & Distributed Infrastructures:** 3 ECTS
- **Flow Optimisation:** 2 ECTS Evolutionary Algorithms
- **Augmented, Virtual & Mixed Reality**: 2 ECTS

Specific Course Units in Smart City:

- **Smart territories:** 4 ECTS
- **Smart Bulding:** 3 ECTS
- **Energetic & Digital Transition:** 2 ECTS
- **Final Year Project:** 14 ECTS

INDUSTRY 4.0

AIMS

The engineer involved in the Industry 4.0 has strong skills in embedded systems and robotics, in quality control and in customer support. As leaders in a key issue of digital transformation, ESEO engineers assist industrialists in transforming, innovating and optimising their facilities.

ACQUIRED SKILLS

You will be proficient in implementing smart sensors and interconnecting devices. You will also collect, transport, store and use data, and have a thorough grounding in various fields such as robotics and mechatronics, automation and industrial IT as well as in modelling and numerical simulation.

CAREER OPPORTUNITIES

You will access positions such as:

• Robotics and Mecatronics Engineer

• Additive Manufacturing Engineer

• Modelling, Simulation & Numerical Optimisation Engineer

• Automation & Industrial IT Engineer

• Energy & Environment Engineer

⚲ DIJON

TAUGHT IN FRENCH

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:

⊘ **English:** 2 ECTS

⊘ **Transversal Skills:** 2 ECTS

⊘ **Connected Instrumentation:** 4 ECTS

⊘ **Data Science & Artificial Intelligence:** 4 ECTS

⊘ **Computer Vision:** 2 ECTS

⊘ **Big Data:** 2 ECTS

⊘ **Synthesis project:** 14 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:

⊘ **Informatique Systems & Distributed Infrastructures:** 3 ECTS

⊘ **Flow Optimisation:** 2 ECTS Evolutionary Algorithms

⊘ **Augmented, Virtual & Mixed Reality**: 2 ECTS

Specific Course Units in Industry 4.0:

⊘ **Electromecanic Systems Dynamics:** 4 ECTS

⊘ **Information System & Industrial Computing:** 3 ECTS

⊘ **CAD & Additive Manufacturing:** 2 ECTS

⊘ **Final Year Project:** 14 ECTS

Semesters STUDY MOBILITIES

Exchange students coming under ERASMUS+ or others international exchange programmes may attend courses in semester 8/9 Engineering cycle / semester 1 to 6 Bachelor cycle / semester 1 to 4 Preparatory cycle. A possibility to do an industrial internship during semester 10 is offered to exchange students who have previously attended semester 9. Places according to availabilities

For more details, please contact: internationaloffice@eseo.fr

Degree Courses

Applications are handled centrally at ESEO Angers by selecting students through their :

- secondary and post secondary reports
- secondary and post secondary degrees
- foreign language official certificates
- cover letter
- reference letter

✅ **FRENCH SPEAKING STUDENTS ONLY**
   Please apply on: candidature.eseo.fr
   For more details, please contact: admission@eseo.fr

ADMISSION CRITERIA:

UNDERGRADUATE

YEAR 1, 2 & 3: INTERNATIONAL PREPARATORY CYCLE / BACHELOR CYCLE
- Post secondary degree (equivalent to French Baccalauréat) in science and technology
- A minimum B2 level in French (or equivalent); an official certificate is required

POSTGRADUATE

YEAR 3: ENGINEERING CYCLE
- Post secondary degree in science and technology + 2 graduated years of science and technology
- A minimum B2 level in French (or equivalent); an official certificate is required

YEAR 4 & 5: ENGINEERING CYCLE
- Bachelor's degree or equivalent in science and technology
- A minimum B2 level in French (or equivalent); an official certificate is required
- A minimum B2 level in English (or equivalent) for English taught majors; an official certificate is required

TUITION FEES 2025-26:

Tuition fees do not include accomodation and living expenses. Below are the 2025-2026 fees for information purposes. They are subject to modifications. A yearly extra 89€ is due for Students Union. A reduction or 100€ is applied for full payment ahead of the academic year. A goverment tax of 100€ for Students & Campus Life is due by all the students paying tuition fees.

	ANGERS	PARIS-VÉLIZY	DIJON
Bachelor Cycle - Years 1-2-3	6550 €		
Preparatory Cycle - Years 1&2	6550 €	7600 €	6550 €
Engineering Cycle - Years 3-4-5	8940 €	8940 €	8940 €

ACCOMODATION

Campuses residences are not available at Eseo.
However, you can find a wide choice of accomodation through our partner : //eseo.studapart.com/

Studapart

Campus life

ESEO offers a wide variety of activities to its students. The first port of call for a newcomer to the school is to check out the various Clubs & Societies. With over 30 societies, there is something to suit every taste and pace.

https://eseo.fr/je-m-oriente/vie-etudiante/clubs/

eseo
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