CENTRALE LYON

Mechanical Engineer

Degree level: Specialty engineering
Training time: 3 years
Language: French
Status: Student, Sandwich courses, professional training
Campus: Saint-Etienne Campus

Objectives

This CTI-accredited course enables students to **develop, model, simulate and design new industrial products and processes** to meet tomorrow's challenges.

The specialization focuses on **virtual engineering, eco-design and eco-manufacturing of innovative products**, **management and optimization of industrial systems** thanks to cutting-edge digital engineering skills while integrating societal and environmental requirements.

Students will acquire in-depth expertise in the various fields of industry whether scientific, technical, organizational or managerial.

Mechanical Engineering engineers are able to:

- eco-design & eco-fabricate the products of tomorrow;
- model, calculate and simulate digitally using and developing virtual engineering tools;
- manage and optimize production systems and the supply chain for operational excellence.

Program

Student status Under apprentice status

International Mobility

A stay abroad **in the form of an internship or academic exchange** allows you to both consolidate your language skills and open up to other cultures. A minimum of one semester's mobility abroad is a requirement for graduation. It can take the form of an Erasmus academic stay, an internship or a double degree in one of our 117 academic partners in 34 countries.

Languages

Language courses are designed to enable linguistic fluency in a professional environment. A **TOEIC certification is compulsory for graduation**, for which intensive one-week preparation courses are scheduled over the last 3 years of training. A second language is included in the curriculum.

Passerelles vers le cursus généraliste

En 3ème année, élèves ingénieurs recrutés en post-bac ainsi que les élèves recrutés à bac +2/bac+3 et n'ayant pas passé le concours Centrale-Supélec ont la possibilité d'intégrer l'École Centrale de Lyon et poursuivre dans le cursus d'ingénieur généraliste (intégration en 1ère année du cycle ingénieur). Selection is based on a dossier and interview.

In 5th year, depending on their career plans, engineering students can choose from one of the 5th year specialties offered by Ecole Centrale de Lyon and apply for this course. It is also possible to do their 5th year at another school in the College of Engineering, namely École des Mines de Saint Étienne, INSA, ENTPE or emlyon.

Projects

An engineer will be required to solve the concrete, complex technical problems presented to them, through the management of projects integrating technical, organizational and financial dimensions.

Several integrative projects mark the course:

- **the 5th semester project** aims to apply scientific and technical skills to a multidisciplinary problem within the student engineer's chosen profession (eg: from architect's study to site organization in Civil Engineering);

- **the 8th semester project** aims at innovation and development in an entrepreneurial logic by associating two complementary trades (e.g. Mechanical Engineering + Civil Engineering, Civil Engineering + Sensory Engineering, etc.) in order to develop the skills of a professional engineer.) in order to develop innovation skills in a multicultural environment;
- **the 9th semester project** is dedicated to the discovery of a research and innovation activity linked to Centrale Lyon ENISE's areas of expertise.

2 Apprenticeship training path

Innovative systems design

- Define product specifications, taking into account design and sensory aspects.
- Anticipate and propose innovative technological solutions, taking into account industrialization constraints, with objectives in terms of cost, quality, deadlines and the environment.
- Manage projects in teams with an international dimension.

Innovative manufacturing and industrial control

- Model, calculate and simulate digitally using and developing virtual engineering tools and optimize production systems.

Apprenticeship organization

The 3 years of training are organized into 6 semesters with around 1,800 hours of academic training.

The training-company alternation period is progressive:

- 5 periods of 4 and 7 weeks at Centrale Lyon ENISE in 1st year
- 4 periods of 3 to 4 weeks at Centrale Lyon ENISE in 2nd year
- 3 periods of 4 weeks at Centrale Lyon ENISE in 3rd year

A 12-week international course is compulsory, including a minimum of 9 weeks of physical mobility abroad (during company periods).

Personalized support for work-study students throughout their training, through a dual company-school tutoring program.

Apprenticeship highlights

- Free, degree-granting training
- Company assignments that foster responsibility
- Training in cutting-edge fields linked to Centrale Lyon ENISE research areas
- Training designed by companies, conceived and validated by a grande école
- 3 years of experience that accelerate professional integration
- A double tutoring system in the company and at Centrale Lyon ENISE

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Diploma and certification

This course delivers a national engineering diploma, controlled by the State and accredited by the Commission des Titres d'Ingénieur.



Career opportunities

Jobs

- Production engineer
- Research and development engineer
- Quality engineer
- Methods and industrialization engineer
- Design engineer
- Maintenance engineer

- Consulting engineer

Focus

Strong industrial roots

Internships, professionalization contracts, apprenticeship training, professional interventions in training, industrial contracts... so many partnership projects with all the socio-economic players that testify to the strong links between Centrale Lyon ENISE and the business world.

Several sectors are represented in our students' career paths, including metallurgy, the automotive, aeronautics, naval and rail industries, as well as the medical and paramedical industries.

Admission requirements and application

Requirements

- Admission Bac + 2 or Bac +3 (Cycle préparatoire intégré Centrale Lyon ENISE, Cycle préparatoire CapECL, CPGE, BUT 2ème ou 3ème année de BUT, licence 3).

Application

Application by dossier on the dedicated platform:

Apply

To apply for an apprenticeship, you must be under 30, and hold at least 120 ECTS (European) credits corresponding to two fully validated years of post-baccalaureate higher education.

Tuition fees

- **Under student status:** **From the start of the 2026 academic year, registration fees for the entire engineering cycle will be modulated. Fees, now calculated according to reference tax income, will vary between €1,613 and €4,113 per year. A total**

exemption is maintained for students on CROUS scholarships.

- **Under apprentice status:** Training is free for students on work-study contracts.

Go to the simulator

Administrative contact

Scolarité Centrale Lyon ENISE

Informations et inscriptions

scol@enise.fr

Documents

- Syllabus Mechanical Engineering under student status (2,57 Mo)
- Syllabus Mechanical Engineering under apprentice status (2,33 Mo)
- Mechanical Engineering brochure (961,41 Ko)

- Application