

# Clean Energy Processes (CEP)

Friedrich-Alexander-Universität Erlangen-Nürnberg  
Bachelor of Science, Master of Science



## General

### Studying for a sustainable future

The Bachelor's programme in Clean Energy Processes provides students with a **comprehensive understanding** in clean energy and clean energy processes. Today engineers are required to be able to work on questions of energy change and to find the necessary solutions for a sustainable future for the planet.

The unique course is **interdisciplinary** in its approach and integrates knowledge from other fields like business, ethics and sustainability. You will learn in an **international** and research-oriented environment with the language of teaching being English.

[CEP programme flyer](#)

### Scientific Environment

The CEP programme is embedded in the Faculty of Engineering of FAU and is working in close proximity to local research centres such as the Helmholtz Institute for Renewable Energies, the Energy Campus Nürnberg, the Fraunhofer Institute for Integrated Circuits and the Bavarian Center for Applied Energy Research e.V. thus creating a unique environment for research and innovation.

### Broad prospects for a future career

Based in Erlangen and its surroundings are many well-known stock companies, medium-sized enterprises including so-called "hidden-champions" and start-ups. The programme has developed contacts with internationally renowned companies, partners in the industry and institutes in the region to do joint research. It thus offers an ideal surrounding for innovation and future career planning in research, industry or other fields like consulting.

## Content

### Content of the degree programme

The B.Sc. CEP programme provides students with a comprehensive understanding in Clean Energy processes incorporating knowledge from fields like business, ethics and sustainability.

The study plan includes:

- basic science (e.g. mathematics, physics, 25 ECTS)
- basic engineering (e.g. foundations of chemical reaction engineering, materials and structures, measurement systems)
- basic economics
- subject-specific basics (e.g. renewable energies, electrochemistry, fundamentals of energy resources)
- active project
- 2 elective modules
- Laboratory course
- Bachelor's thesis

The course provides students with the fundamentals in sciences, engineering and economics as



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well as subject-specific basics in renewable energies, electrochemistry and fundamentals of energy resources. The curriculum is complemented by soft skills, scientific skills, and an active project and a laboratory course, in which students gain first-hand experience with research at the involved institutes.

## Perspectives

### Prospects

There is a rising demand for engineers that have an extensive knowledge of innovative technologies for renewable new energy systems and energy production. Graduates can significantly participate in the successful introduction of new sustainable energy systems and energy processes and adequately evaluate sustainability on a global scale. As they have more experience with international and research-related topics than other graduates, they are especially suited for tasks on the highest level of engineering with an international focus or to pursue further studies leading to a master's degree and/or PhD.

Job possibilities:

- Energy production and logistics
- Process optimization and intensification
- Consulting and auditing
- Energy companies/providers
- Sustainable chemical industry
- Sustainable bio-industry
- Policy and decision making
- Master's degree and/or Ph.D. in (sustainable) chemical and process engineering

### General information

- Degree: B.Sc.
- Programme duration: 6 semesters (3 years)
- Study location: Erlangen
- Admission requirements: Applicants are required to pass the qualification assessment test (Eignungsfeststellungsverfahren)
- "NC" subject / pre-study internship: no; qualification assessment test
- Teaching language: English
- Application deadline: The application deadlines can be found at <https://www.fau.eu/education/application-and-enrolment/>  
International students are advised to apply well before the end of the deadline.

Elektrotechnik

Maschinenbau

Verfahrenstechnik, Chemieingenieurwesen

Umweltschutz