Facts and Figures

Duration:	2 years
Programme start:	October
Language:	English
Application deadlines:	31 May / 15 July*
Requirements:	BSc in Engineering or Science, outstanding performance, English proficiency
Fees:	290 Euro per year

(*Please check web page for details)

How to apply

Please send the following documents by post:

- Completed application form (online)
- A certified copy of your undergraduate diploma
- A certified copy of your grade transcript
- Proof of English proficiency (TOEFL or IELTS)
- GRE score (strongly recommended)
- Curriculum vitae (optional)

University of Freiburg – Faculty of Engineering
Admissions Office SSE
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INATECH
DEPARTMENT OF SUSTAINABLE SYSTEMS ENGINEERING

Master of Science

Sustainable Systems Engineering

University of Freiburg
Faculty of Engineering

March 2016

UNI FREIBURG

The Master's Programme

Science and engineering are basic tools to achieve a sustainable development, also in domains like ecology, economics and society. The international Master's Sustainable Systems Engineering (SSE) provides an in-depth knowledge in fields like sustainable materials, energy systems (especially renewable energies), resilience, natural resources, sustainable economics, as well as technology and society. The successful completion of the Master's programme qualifies for a career in research, as well as head positions in industries of conventional and renewable energy, supply companies and infrastructure operators for mobility or energy.

Sustainable Materials

The Master's programme in Sustainable Systems Engineering is designed for highly qualified graduate students holding a Bachelor‘s degree in engineering or science. As an SSE student, you will have the opportunity to:

- be involved in cutting-edge research with internationally renowned professors
- benefit from state-of-the-art equipment on a modern campus
- live in one of Germany’s most appealing cities

The Curriculum

SSE is an interdisciplinary programme that builds on a basic knowledge in electrical and mechanical engineering and informatics. In the first year you will have compulsory courses in all areas which provide fundamental knowledge in sustainability engineering. From the second semester on you can specialise in two of three technical specialisation areas and select an interdisciplinary profile.

Semester 1

- Energy Storage
- Fundamentals of Resilience
- Material Life Cycles
- Control and Integration of Grids
- Computational Materials' Engineering
- Solar Energy

Semester 2

- Power Electronic Circuits and Devices
- Design of Large Infrastructures
- Security and Privacy in Resilient Systems
- Technical Specialisation
- Interdisciplinary Profile

Semester 3

- Technical Specialisation in
  - Energy Systems
  - Information Processing Technologies
  - Sustainable Materials
  - Resilience Engineering
- Interdisciplinary Profile

Semester 4

- Master Project
- Master Module

Energy Systems

The Department

In order to find solutions for future challenges in the development of sustainable technologies, engineering research is necessary in the fields of energy, materials and resilience. Such a platform for research is formed by the newly founded INATECH, the Department of Sustainable Systems Engineering at the Faculty of Engineering.
This institute unites and focuses the scientific power of the university and five Freiburg-based Fraunhofer Research Institutes. In this way INATECH and its partners offer a research-oriented Master's programme at the leading edge of science and engineering in sustainability. 14 freshly appointed professors and several hundred highly qualified scientists will contribute to teaching and training in SSE.

The University

Founded in 1457, the University of Freiburg is one of the most renowned universities in Germany. Its Faculty of Engineering focuses on higher education and research in key technologies, such as sustainable engineering, microsystems engineering, embedded systems and computer science. It does not only explore new ways in research, but it also has been awarded various prizes for striving to implement new methods and technologies in the teaching process.

Resilience