Graduation

The internationally recognized academic degree of Bachelor of Engineering (B. Eng.) will be conferred by the Ernst-Abbe-Hochschule University of Applied Sciences Jena on students who have successfully completed the programme.

Entrance Requirements

Entrance requirements for the programme are the general university entrance qualification or entrance qualification to a university of applied sciences. A pre-study industrial placement is not required.

Programme language is German. International students who apply for the full-time course have to pass the language exams DSH 2 or DSH 3 or Test DAF with 4 or 5 points in all portions. More information about entrance requirements can be found on the following site: www.eah-jena.de

Professional Perspectives

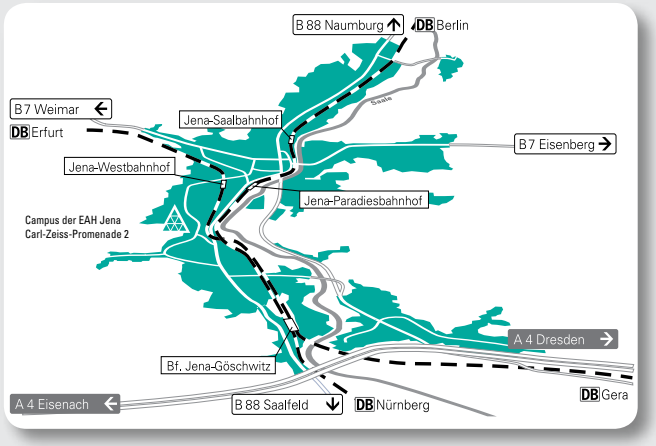
Companies from a wide range of sectors have also emphasized the huge demand for university graduates in materials engineering who have been trained in practical applications. This demand is also proved by the high rate of placements of graduates who have taken the Materials Engineering programme offered by the University of Applied Sciences Jena.

Because of the sound training they have received, engineers trained in this subject are among the most sought after graduates by companies in the materials producing and processing sectors (e.g. the plastic processing industry, the ceramic and glass industry, metal processing) as well as in many other sectors of industry (automotive, electronics, medical engineering, aviation). Graduates who achieve sufficiently high marks on the programme can usually choose from a wide range of jobs.

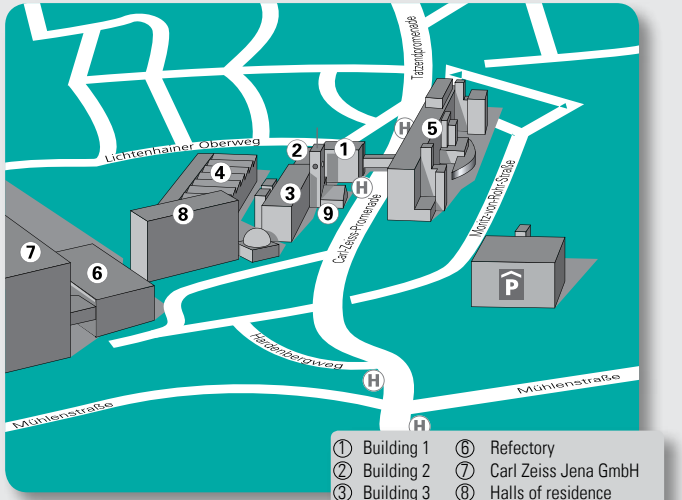
Contact

Application	www.eah-jena.de/bewerbung
Dean's office	Phone:+49(0)3641205-400,Fax:+49(0)3641205-401 Email: scitec@eah-jena.de
Course director/ Course consultant	Prof. Dr. Jörg Töpfer Phone: +49 (0)3641 205-479 Email: Joerg.Toepfer@eah-jena.de

Road and rail links



Campus map



① Building 1
② Building 2
③ Building 3
④ Building 4
⑤ Building 5
⑥ Refectory
⑦ Carl Zeiss Jena GmbH
⑧ Halls of residence
⑨ University sports centre

As of: August 2017

All information might be subject to additional modification. No legally binding claims can be inferred from this informational flyer.

Foundation for the Accreditation of Study Programmes in Germany
Accreditation Council
Successfully accredited by ACQUIN

Ernst-Abbe-Hochschule Jena
University of Applied Sciences
Carl-Zeiss-Promenade 2, Postfach 10 03 14, 07703 Jena, Germany

www.scitec.eah-jena.de

Ernst-Abbe-Hochschule Jena
University of Applied Sciences

Materials Engineering

Bachelor's Degree Course

INNOVATION FOR QUALITY OF LIFE.
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Photos: EAH Jena, S. Reuter, I. Rodigast

B. Eng. Materials Engineering

Programme Contents and Objectives

The programme in Materials Engineering prepares students for the profession of materials engineer in industry or research institutes. Graduates on the Bachelor's degree in Materials Engineering are qualified skilled personnel who are fully proficient in the basic principles of science and engineering and have a sound knowledge of materials and the associated technologies. Materials engineering is a combination of physics, chemistry and technology.

Graduates with suitable aptitude can study for the consecutive Master's degree in Materials Engineering at the Ernst-Abbe-Hochschule University of Applied Sciences Jena. The Master's degree programme serves to extend their knowledge of the subject and makes it possible to study for a doctorate.

Employment Opportunities

Graduates of the course are in demand wherever materials are manufactured and processed. Materials engineers carry out a very wide range of work. They manufacture and process materials, improve them and ensure that they are used to the best advantage.

	Module 1		Module 2	Module 3		Module 4		Module 5	
1st Semester	Mathematics I		Physics I	General and Inorganic Chemistry	Basic Materials Science		Engineering Mechanics	Electrical Engineering	Technical English
2nd Semester	Mathematics II		Physics II	Anorganic Chemistry	Materials Testing				
3rd Semester	Physical Materials Diagnostics	Business Administration	Chemistry of Polymers/ Composite Materials	Basics of Measurement Technology		Metals I	Thermodynamics and Physical Chemistry		Computer Sciences
4th Semester		Production Engineering I	Polymer Technology I	Inorganic Non-metallic Materials		Metals II		Basics of Engineering Design/ CAD	
(5th and 6th semester)	Voluntary Year Abroad (30 weeks)								
5th (7th) Semester	Basics of Quality Management	Production Engineering II	Polymer Technology II	Glass / Ceramics		Corrosion/ Surface Engineering	Fatigue Strength	Elective Module	
6th (8th) Semester	Soft Skills	Internship			Bachelor Thesis				Colloquium

Recomended Elective Modules	Biomaterials	Modern Production Engineering	Control Engineering	Introduction into FEM	3D-CAD	English for Academic Purposes	Further Foreign Language

Determining balance between the technological possibilities, the likely costs and the conservation of resources in a world in which raw materials are becoming ever scarcer. Materials engineering thus also assumes a pronounced strategic dimension.

Programme Overview

1st and 2nd semester:

thorough grounding in the basic principles of mathematics, the natural sciences and engineering

3rd to 5th semester:

deepening students' knowledge of the most important classes of materials, including manufacture, properties, processing and applications

6th semester:

Graduates will be able to apply the knowledge acquired both in the integrated practical training and in writing the Bachelor thesis to solve problems commonly arising in their subsequent careers, defence of the Bachelor thesis

The 6th semester includes an integrated practical training and is also the semester in which the Bachelor thesis is written. The aim here is to apply the knowledge acquired during the programme to solve in a practical project typical problems arising in professional life.

Bachelor thesis and practical training are usually carried out in an industrial concern or in research institutes. The practical training also gives students the opportunity of experiencing day to day work in an industrial environment and of making initial contacts with potential future employers. The programme concludes with a colloquium in which the students defend their Bachelor thesis.