Graduation

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

Entrance Requirements

The entrance requirement for admission to the Master's degree programme in Materials Engineering is a diploma or a Bachelor's degree in materials engineering, material sciences or a comparable scientific-technical course of studies with a pass mark of good.

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.master.eah-jena.de

Professional Perspectives

Materials engineering is of enormous strategic importance for the development of innovative products and the efficiency and competitiveness of the economy.

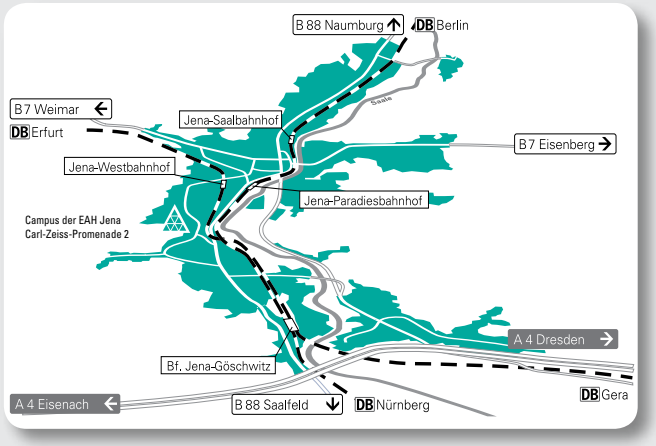
Surveys have shown that more than three quarters of the twenty largest German companies consider material research to be important to very important for future corporate development and that about 60% of all companies from different market segments engaged in research in Germany work in the field of materials engineering. Extensive research and funding programmes have been set up both nationally and internationally to promote development in this area. (www.vdi.de)

The Master's degree qualifies its holders to study for a PhD throughout the world.

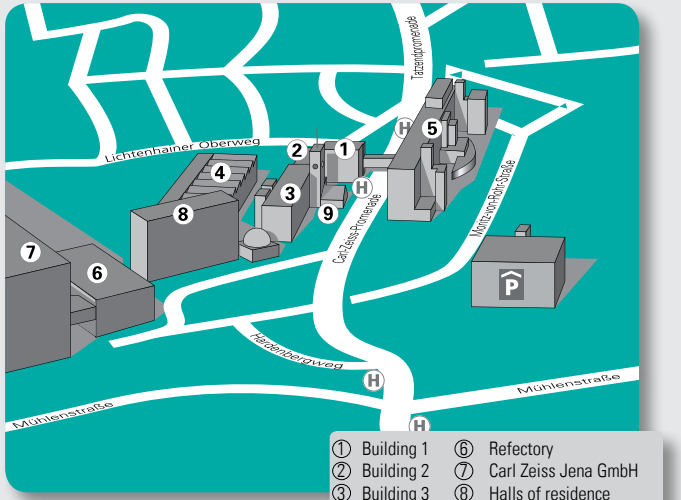
Contact

Application	www.eah-jena.de/bewerbung
Dean's office	Phone: +49 (0)3641 205-400, Fax: +49 (0)3641 205-401 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



As of August 2017

All information can be subject to additional change. 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

Photos: EAH Jena, S. Reuter, I. Rodigast

www.scitec.eah-jena.de

Ernst-Abbe-Hochschule Jena
University of Applied Sciences

Materials Engineering

Master's Degree Course

INNOVATION FOR QUALITY OF LIFE.
Health, Precision, Sustainability & Networking

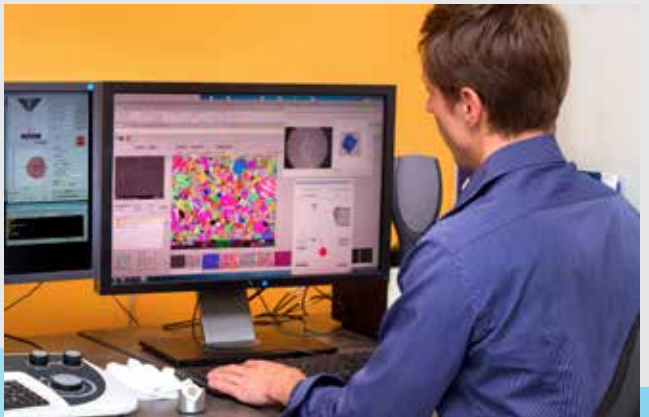
M. Eng. Materials Engineering

Programme Contents and Objectives

The objective in training the graduates on the Master's degree programme in Materials Engineering is to provide qualified personnel who have mastered the fundamentals of the physical and engineering sciences and who possess an in-depth knowledge of materials and material technologies.

Course benefits:

- Programm has a strong application-related bias
- Inclusion of students in regional networks
- Courses held in the form of seminars
- Development of foreign language skills
- Practical training in small groups
- teaching of advanced scientific and technical engineering skills



	Module 1	Module 2	Module 3		Module 4	Module 5	
1st Semester	Solid-State Physics and Analytics I	Physical Metallurgy and Processing of Metallic Materials I	Polymer Engineering	Introduction to FEM	Physical Ceramics	Micro-systems Engineering	Non-technical module I
2nd Semester	Solid-State Physics and Analytics II	Physical Metallurgy and Processing of Metallic Materials II	Elective Module			Instrumental Chemical Analytics	Non-technical module II
3rd Semester	Chemical Nanotechnologies	Composite Materials/ Surface Engineering	Plastics Recycling/ Ageing		Ceramic Processing	Applications of Fracture Mechanics	Thermo-dynamics
4th Semester	Soft Skills	Master Thesis					Colloquium

Elective Module	Damage Analysis	Plastics Upgrading	Micro- and Nanostructures		Thin Films	Materials for Sensors and Electronics	Selected Topics of Sensor Technology
	Scientific Computing		Gas Sensing and Aerosol Measurement			Advanced 3D-Design / FEM and Simulation	Precision Instrumentation

Non-technical module	English for Specific Purposes I	English for Specific Purposes II	Further Foreign Languages	Intercultural Communication	Business Administration Optional Compulsory Module

Employment Opportunities

The shortage in the technical scientific sector of qualified personnel who have undergone practically-oriented training is becoming an ever greater problem in that sector of the economy. The Master's degree programme in Materials Engineering is designed to counteract this negative trend. In this programme graduates are trained for employment in application-related research and development as well as in the material-based branches of industry.

Potential fields of work:

Industry sectors using materials:
Power engineering
Automotive industry
Electronics
Information technology

Material manufacturing industry:
Construction material manufacturers
Metallurgy
Glass and ceramics industry

Research institutions with orientation towards material science

Material processing industry:
Plastics processing
Metal processing
Ceramics industry

Programme Overview

The Materials Engineering programme is a consecutive Master's degree course, building in a modular fashion on the Bachelor's or diploma programme. Students' knowledge is extended and consolidated over four semesters. Great stress is placed in the Master's degree programme on independent scientific work and research under guidance.

The main language of instruction is German. The Master thesis is written in the last study semester and presented in the subsequent colloquium. The title of the degree, Master of Engineering also reflects the application-related bias of the programme.

Study focus:

Technology of Materials
Materials Processing
Plastics Technology
Ceramics Technology
Thin Film Technology
Surface Technology
Finite Elements Method
CAD

Production, Properties and Use of Materials
Metals
Plastics
Glass / Ceramics
Composites

Materials characterisation
Physical Diagnosis
Chemical Analysis
Particle Analytics
Materials Testing