Application requirements

- a Bachelor's degree (or equivalent) in a technical or scientific field, whose curriculum covers the special educational prerequisites for the Master's programme in Scientific Instrumentation, e. g. Physics, physics engineering, precision engineering, mechatronics, electronic engineering, mechanical engineering, medical engineering and comparable study programmes
- a good command of English, demonstrated either by a TOEFL or IELTS test (minimum levels: paper-based TOEFL 550 points, internet-based TOEFL 79 points, IELTS overall band score of 6.0; the test shall not date back more than two years)
- to be eligible for admission, 50 out of 115 possible points are required:
  - weighting of the final grade of the first academic degree (up to 75 points)
  - evaluation of the quality and fit of the completed Bachelor's degree (up to 25 points)
  - evaluation of the quality of special scientific achievements through research work in relevant field (up to 15 points)

contact

Application	www.eah-jena.de/bewerbung
Dean's office	Tel.: +49 (0) 36 41/2 05-400 Fax: +49 (0) 36 41/2 05-401 E-Mail: scitec@eah-jena.de
Study Course Management	Prof. Dr.-Ing. Ronny Gerbach Tel.: +49 (0) 36 41/2 05-362 E-Mail: ronny.gerbach@eah-jena.de

eah-jena.de

At a glance

Admission:	Eligibility (check application requirements)
Enrolment:	October 1st
Application period:	March 15th - June 1st
Extent:	4 semesters, 120 ECTS
Degree:	Master of Science (M. Sc.)
Language:	English

Ernst-Abbe-Hochschule Jena
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As of: november 2022

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EAH Jena

Department of SciTec

Scientific Instrumentation

Master's Degree Course

You have got the choice!

After a first academic degree in sciences or engineering programs, the English taught Master's degree programme in Scientific Instrumentation offers you the opportunity for further qualification in the area of scientific instruments engineering, with both technical and interdisciplinary qualifications necessary for the successful pursuit of your future career.

Curriculum

The Master's degree programme in Scientific Instrumentation is an all-English, two-year Master's degree course. The course is designed to provide professional as well as multidisciplinary competences which are required for a successful career. This includes knowledge in science and engineering as well as key qualifications.Depending on the prerequisites of each individual student, the first semester includes Required elective modules on advanced topics of Applied Physics or Precision Engineering.

In the second semester, you can choose four modules out of nine offered according to your interests from various areas (such as optics, electronics, microtechnology, design, simulation, computer science).

Semester three includes a research internship and during the fourth semester students work on their Master's thesis. The research work for the internship and the master's thesis can be done in a university, in a research institute or in industry. It is jointly supervised by the according institution and our university.

Distinctive features

- international all-English Master's degree programme
- interdisciplinary and modular curriculum
- state-of-the-art laboratories and equipment

Career opportunities

In the actual scenario of a growing shortage of highly qualified personnel in technical and scientific sectors, there are excellent career prospects for graduates of the Master's degree programme in Scientific Instrumentation both nationally and internationally.

The industries and research institutes in the region of Jena provide excellent employment opportunities for graduates in the particular specialisations which they have opted for. Many companies are engaged into the fields of metrology and sensors, optics, analytical techniques, micro engineering and medical engineering. The close contacts that the teaching staff possesses with the industrial firms and research institutes ensure that the training is practically oriented and is up-to-date with the course contents. Looking at the current scenario for interns and graduates of the scientific engineering courses, the demand is exceeding the supply. The Master's degree in Scientific Instrumentation also qualifies its holder to pursue a PhD.

Degree programme

	Module 1	Module 2	Module 3	Module 4	Module 5	
1st Semester	Required elective modules I			Physical Materials Diagnistics	Quality Management	Scientific Writing and Presentation	German I/ Non-technical module I
2nd Semester	Required elective modules II					Soft Skills	German II/ Non-technical module II
3rd Semester	Research Internship						
4th Semester	Master Thesis						Colloquium

Required elective modules I:	for graduates in e.g. Precision Engineering	Solid State Physics	Microsystems Engineering	Electronic Hardware Systems
	for graduates in e.g. Physics Engineering	Design of Precision Devices	Introduction to FEM	Electronic Hardware Systems
	for graduates in e.g. Electrical Engineering	Design of Precision Devices	Introduction to FEM	Solid State Physics

Recommended Required elective modules II	Materials for Sensors and Electronics	Micro- and Nanotechnology	Optical Instruments	Gas Sensing and Aerosol Measurement	
	FEM and Simulation	Advanced 3D-Design	Precision Instrumentation	Scientific Computing	Introduction to Data Science and Machine Learning