

Department	SciTec
Degree programme	SI
Module name	Design of Precision Devices
Module number	SciTec.2.233
Study and Examination Regulations	ER-version 39 (of 23.07.2019), ER-version 41 (of 16.07.2021)
Compulsory/ compulsory optional/ optional module	compulsory optional module
Module coordinator	Prof. Dr. Mirko Pfaff
Module content	<ul style="list-style-type: none"> ▪ Requirements for designs of precision devices ▪ dimensional tolerance, fits, shape and position tolerances ▪ design methodology ▪ selected design elements ▪ creating parts, assemblies and technical drawings using 3D-CAD-software
Learning objectives	<p>The students:</p> <ul style="list-style-type: none"> ▪ can apply the design methodology to a specific task and formulate the specific requirements for a precision device. ▪ are able to select and calculate required design elements. ▪ can create concepts on basis of the elaborated requirements and finalise a detailed design using 3D-CAD-software.
Course type (lecture, seminar, exercises, practical course)	2 L – 0 S – 0 E – 3 P
Recommended literature	<ul style="list-style-type: none"> ▪ Pahl, G.; Beitz, W.; Feldhusen, J.; Grote, K.-H.: Engineering Design, Springer ▪ Hoischen: Technisches Zeichnen, Cornelsen Verlag ▪ Krause, W.: Konstruktionselemente der Feinmechanik, Hanser
Learning materials	Script, worked examples, 3D-CAD-software, additional papers
Method(s) of instruction/ media being used	Lecture, practical course (3D-CAD-software)
Level/ category	Master (category: 2)
Which semester (winter/ summer term)	winter term
Which semester during the programme	1
Requirements for attendance, necessary knowledge	Basic knowledge of mathematics, physics, materials science, production engineering
Assessment (written/ oral test, paper, etc.)	alternative examination course achievement: successful attendance of practical course
ECTS credits	6
Work load in:	180 h of total work load, therefrom <ul style="list-style-type: none"> ▪ 60 h of presence at university ▪ 120 h of self-study
Usability of this module	Advanced 3D-Design
Frequency of offer	Every study year
Duration of module	1 semester
Place/ room	Ernst-Abbe-Hochschule Jena - University of Applied Sciences Jena
Time	According to schedule
Language(s)	English