

Module Name	Design Methodologies Basics
Module Number	Eul-ET-E-KonG
Responsible Lecturer	Prof. Dr.-Ing. habil. Jens Lienig jens.lienig@tu-dresden.de
Qualification Objectives	After completing the module, students are able to design components and assemblies, calculate and dimension design elements, and apply them correctly.
Contents	The module covers the fundamentals of design engineering with a focus on standard numbers and dimensions, tolerances, fits, dimension and tolerance chains, strength calculations, material load capacity, mechanical connection elements such as material, form, and force closure, mechanical functional elements such as springs, bearings, guides, and shafts, mechanical functional groups, and gear mechanisms.
Teaching and Learning Forms	3 hours per week of lectures, 2 hours per week of exercises, and self-study.
Prerequisites for Participation	The competencies to be acquired in the module " Electronic Systems Design" are required.
Usability	The module is one of three elective modules in the field of Electrical Power Engineering in the diploma program Electrical Engineering, of which one must be chosen. It creates the prerequisites for the modules that list this module in the field "Prerequisites for Participation."
Prerequisites for the Award of Credit Points	Credit points are awarded when the module examination is passed. The module examination consists of a written exam lasting 120 minutes and a portfolio with a workload of 60 hours. Both examination components are relevant for passing.
Credit Points and Grades	5 credit points can be earned through the module. The module grade is determined by the weighted average of the grades of the examination components. The written exam is weighted twice, and the portfolio is weighted once.
Frequency of the Module	The module is offered every winter semester.
Workload	The total workload is 150 hours.
Duration of the Module	The module lasts one semester.