

Only the german version of the module description as part of the study regulations is legally binding.

Module name	Production engineering basics - production engineering and production planning
Module number	INF-25-Ma-NGR-PROD
Responsible lecturer	Prof. Dr. Hans Christian Schmale hans_christian.schmale@tu-dresden.de
Qualification objectives	Students have a basic knowledge of the manufacture and production of products in mechanical, vehicle and plant engineering. They are able to provide an overview of existing manufacturing processes and have basic knowledge of the operating principles, the technical equipment and the technological parameters of these processes. They are able to plan and design production and manufacturing processes. The basics of work preparation and production planning from the definition of a machining task to its realization on production equipment are understood as part of engineering work and can be carried out responsibly.
Content	The module covers the most important manufacturing processes in primary forming, forming, machining, removal, joining and surface technology and their operating principles. The module also focuses on work preparation and production planning for part production and assembly processes with the work steps of analyzing the machining task, process preparation on the basis of process graphs, process detail aillation including process time determination and the preparation of technological documents.
Teaching and learning methods	The module comprises lectures of 4 SWS, exercises of 1 SWS and the self bststudium. The language of instruction for the lectures and exercises is German.
Prerequisites for participation	No knowledge is required.
Applicability	The module is a compulsory module of the Non-Computer Science Supplement Production Engineering in the Diploma program in Computer Science. The module is a compulsory elective module of the open track supplement in the Master's degree program in Computer Science, which must be selected in accordance with Annex 2 to the examination regulations. In the Master's degree program in Computer Science, the module can only be selected in combination with the module INF-25- Ma-NVE-PROD Production Engineering Specialization - Production Engineering and Automated Parts Manufacturing. The module cannot be selected in the Master's degree program in Computer Science if this module or a module with essentially the same content from a study course with which the admission requirements according to § 3 of the study regulations have already been met has already been completed. The module creates the prerequisites for the modules listed under prerequisites for participation.

Requirements for earning credit points	The credit points are earned if the module examination is passed. The module examination consists of a written examination lasting 90 minutes and a portfolio of 25 hours. Both examinations are relevant for passing the module. The examination language for the written examination and the portfolio is German.
Credit points and grades	6 credit points can be earned through the module. The module grade is calculated from the un weighted average of the grades of the individual examinations.
Module frequency	The module is offered every winter semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.