

Elective module “Fluid Dynamics”

Lecturer	Prof. Dr. Boris Schilder
Module Components	4 SWS lecture, 1 SWS exercises
Preliminary Examination	Module “Technical English 3”, exception for exchange students possible
Module Examination	Written examination (90 minutes)
Further Information	Language: English

Keep in mind to register for every preliminary and module examination on the HIS-platform within the published time frame.

Short Outline of elective module contents

Fluid Dynamics is the science of the physical behavior of fluids (liquids and gases). Fundamental equations about force, energy and momentum of fluids are being taught. The gained knowledge is used to design components in fluidic systems. You will e.g. learn how to calculate the optimal velocity of a wind turbine in order to maximize the efficiency of regenerative power generation.

Module content

- Fluid mechanic fundamental terms and concepts
- Hydrostatic pressure
- Viscosity and shear forces
- Conservation equations for mass, energy and momentum
- Pumps and turbines
- Laminar and turbulent flows
- Pressure losses in pipe flows

