



List of courses for the complex examination

The complex examination consists of one main course and one subsidiary course. These must be chosen from the list of subjects given in the programme.

Subjects of the complex examination of the doctoral programme in Building Services Engineering, Building Energy

main courses:	<ul style="list-style-type: none">• Building Energy
subsidiary courses:	<ul style="list-style-type: none">• Comfort Theory• Thermal Engineering• Air distribution systems in buildings• Solar radiation geometry• Modelling of energy processes• Exergetic-based analysis of building services systems

Subjects of the complex examination of the sub-programme Mechanical Process Design, Materials and Machine Diagnostics

main courses:	<ul style="list-style-type: none">• Numerical mechanics• Dynamics• Mechanical systems engineering and modelling• Methodology and tools of machinery diagnostics
subsidiary courses:	<ul style="list-style-type: none">• Optical characterization of metal surfaces and thin films• Non-destructive material testing• Destructive material testing• Modelling of Manufacturing Technologies• Composites• Modern Robotics

Subjects of the complex examination in the sub-programme Mechatronics, Cyber-Physical Systems

main courses:	<ul style="list-style-type: none">• Mechatronics• Electricity• Measurement and Signal Processing
subsidiary courses:	<ul style="list-style-type: none">• Power Electronics• Modern Robotics• The scientific approach to the transition between Industry 4.0 and Industry 5.0• Cognitive Control of Cyber-Physical Systems• Electronics and electronic energy converters• Physics and technology of MEMS devices• EMC Theory and Practice• Cognitive Control of Cyber-Physical Systems