

**Modulhandbuch für den Studiengang Control of Renewable Energy Systems
(universitäres Profil),
Master of Science, Prüfungsordnung 2025**
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Wind Energy and Robust Control

Solar Energy, Smart Grids and Observation

Hydrogen, Geothermal Energy, Storage and Power Networks

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Module 13515 Advanced Methods in Process, Energy and Systems Engineering

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	13515	Compulsory elective

Modul Title	Advanced Methods in Process, Energy and Systems Engineering Erweiterte Methoden zur Prozessmodellierung und Optimierung in der Energie- und Verfahrenstechnik
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr.-Ing. Arellano-Garcia, Harvey
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every semester
Credits	6
Learning Outcome	The module requires a basic background in calculus and linear algebra, thus allowing easy understanding of mathematical reasoning. In addition, numerous examples in process, energy, environmental and systems engineering will demonstrate key concepts and algorithms. The practical exercises will involve theoretical derivations and small-size numerical problems in modelling systems like matlab, python, octave, GAMS thus putting knowledge into practice.
Contents	As part of the block course, students also gain an insight into German technical and everyday language, as well as into German culture. This module will teach approaches to modelling and optimization frameworks to address the complex process and energy problems, which arise in design and operation of process and energy systems in an integrated way. Moreover, the presented theoretical and methodological concepts are joined conceptionally with optimal designed experiments to adjust the fundamental mathematical models and to validate the developed process concepts. The taught methods are of generic character, and thus, producing optimal design and operational plans for process and energy systems ranging from microscale to mega-scale stages over operative time horizons from milliseconds to years. The approaches to be discussed will mainly be around superstructure-based modelling, mixed-integer linear and nonlinear programming, multiobjective optimization, optimization under uncertainty, and life-cycle assessment. The presented case studies will

	be around advanced process systems for renewable energy conversion, separation and reaction systems as well as biotechnological production systems.
Recommended Prerequisites	• Basic background in process engineering • calculus and linear algebra
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 2 hours per week per semester Seminar - 2 hours per week per semester Self organised studies - 90 hours
Teaching Materials and Literature	• Script zur Vorlesung • Advanced Optimization for Process Systems Engineering. Ignacio E. Grossmann, Cambridge University Press • Optimization for Chemical and Biochemical Engineering: Theory, Algorithms, Modeling and Applications. Vassilios S. Vassiliadis, Walter Kähm, Ehecatl Antonio del Rio Chanona, Cambridge University Press • Systematic Methods of Chemical Process Design. Lorenz T. Biegler, Ignacio E. Grossmann, Arthur W. Westerberg, Prentice Hall • Nonlinear Programming: Concepts, Algorithms, and Applications to Chemical Processes. Lorenz T. Biegler, SIAM, 2010
Module Examination	Final Module Examination (MAP)
Assessment Mode for Module Examination	• Written Examination 90 min
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	• The module takes place as a block course • The appointment will be announced in the current semester
Module Components	• VL Advance Methods in Process, Energy and systems Engineering • Ü Advance Methods in Process, Energy and systems Engineering • P Advance Methods in Process, Energy and systems Engineering
Components to be offered in the Current Semester	360352 Seminar Advanced Methods in Process, Energy and Systems Engineering - 2 Hours per Term 360351 Lecture/Exercise Advanced Methods in Process, Energy and systems Engineering - 4 Hours per Term 360390 Examination Advanced Methods in Process, Energy and systems Engineering

Module 13832 Optimisation in Process and Energy Systems Engineering

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	13832	Compulsory elective

Modul Title	Optimisation in Process and Energy Systems Engineering Optimierung in der Verfahrens- und Energiesystemtechnik
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr.-Ing. Arellano-Garcia, Harvey
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	After participating in this module, the students master the basic knowledge, in terms of mathematical optimization methods and tools. Relevant examples from Energy and Process Engineering are used to enhance the understanding of the various tools and methods taught. The focus is on the formulation of the problems and the approaches for their mathematical solution. The methods covered are applied in accompanying calculation exercises.
Contents	• Introduction: Definition, problem formulation, applications • Linear programming • Non-linear programming • Mixed integer non-linear programming • Dynamic optimization • Stochastic optimization
Recommended Prerequisites	• Chemical Engineering • Thermodynamics • Process Systems Engineering
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 1 hours per week per semester Self organised studies - 135 hours
Teaching Materials and Literature	• T. F. Edgar, D. M. Himmelblau, Optimization of Chemical Processes, McGraw-Hill, New York, 2001

- L. T. Biegler, I. E. Grossmann, A. W. Westerberg, Systematic Methods of Chemical Process Design, Prentice Hall, New Jersey, 1997
- C. A. Floudas, Nonlinear and Mixed-Integer Optimization, Oxford University Press, 1995
- J. Nocedal, S. J. Wright, Numerical Optimization, Springer, 2006
- R. Baldick, Applied Optimization, Formulation and Algorithms for Engineering Systems, Cambridge University Press, 2006

Module Examination	Final Module Examination (MAP)
Assessment Mode for Module Examination	• Written examination (90 min)
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	none
Module Components	VL + Ü + Prü Optimization in Process and Energy Systems Engineerin
Components to be offered in the Current Semester	360331 Lecture/Exercise Optimierung in der Energie- und Verfahrenstechnik/Optimization in Process and Energy Systems Engineering - 3 Hours per Term 360386 Examination Optimization in Process and Energy Systems Engineering

Module 13926 Hydrogen and Fuel Cells

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	13926	Compulsory elective

Modul Title	Hydrogen and Fuel Cells Wasserstoff und Brennstoffzellen
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr. rer. nat. Röntzsch, Lars
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	Students are introduced to the entire hydrogen energy technology value chain, encompassing hydrogen production, storage, distribution, and utilization. Each chapter explores the physicochemical principles underlying specific hydrogen technologies, provides a detailed description of the respective systems and components (including material selection, manufacturing, and operational aspects), and illustrates its applications through practical examples. The course also incorporates numerical exercises to reinforce and deepen the understanding of the lecture content. Regular personal attendance is strongly recommended in order to directly grasp the course content, teaching approach, and the expectations regarding examination tasks; exclusive reliance on online self-study is explicitly not recommended.
Contents	1. Introduction to hydrogen and its properties 2. Hydrogen energy cycle 3. Hydrogen production 4. Hydrogen purification 5. Hydrogen storage 6. Distribution and infrastructure 7. Fuel cells 8. Hydrogen combustion 9. Hydrogen safety
Recommended Prerequisites	Very good knowledge and coherent understanding of power engineering, physics, chemistry, and mathematics (Master's level)
Mandatory Prerequisites	none

Forms of Teaching and Proportion	Lecture - 3 hours per week per semester Exercise - 1 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	Supplementary lecture materials and exercise assignments are made available via the Moodle learning management system. They are intended solely to support and accompany the lectures and exercises and cannot substitute for regular attendance, active participation, and the preparation of individual notes during class. Further literature includes: • Compendium of Hydrogen Energy, Volumes 1-4 (Woodhead, 2015). • Hydrogen - Its Technology and Implications, Volumes 1-5 (CRC Press, 2018). • Fuel Cells and Hydrogen Production (Springer Science, 2019). • Hydrogen Energy - Challenges and Solutions for a Cleaner Future (Springer, 2019). • Hydrogen Production Technologies (Wiley, 2017). • Handbook of Hydrogen Energy (CRC Press, 2014). Hydrogen Safety (CRC Press, 2013).
Module Examination	Final Module Examination (MAP)
Assessment Mode for Module Examination	• Final written exam (120 min)
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	none
Module Components	• Lecture Hydrogen and Fuel Cells • Exercise Hydrogen and Fuel Cells • Exam Hydrogen and Fuel Cells
Components to be offered in the Current Semester	320455 Lecture/Exercise Hydrogen and Fuel Cells - 4 Hours per Term 320477 Examination Hydrogen and Fuel Cells

Module 13964 Geothermal Energy

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	13964	Compulsory elective

Modul Title	Geothermal Energy
	Geothermische Energie
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr. rer. nat. Ragwitz, Mario
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	The module provides an overview of geothermal technologies and their application for the generation of electricity, heating & cooling and for underground thermal energy storage. The students understand the geothermal heat source, properties of the subsurface and thermal transfer mechanisms. They apply knowledge to the basic design of local heat distribution systems, the integration of low temperature geothermal heat sources and ground-source heat pumps in the energy supply systems and the use of geothermal storage options for the balancing of seasonal heating&cooling demands with asynchronous supply and demand cycles as well as the basic economic considerations of geothermal energy generation and heat network integration.
Contents	• Basic geological principles • Overview of different geothermal systems • Geothermal fluids – thermal and chemical properties • Heat transfer in the subsurface • Reservoir characterization • Design of a geothermal system • Geothermal electricity: historical development, types of power plants • Geothermal heat usage: residential heating, industrial applications • Environmental issues of geothermal energy • Geothermal heat networks • Integration of ground-source heat pumps in flexible heat supply systems • Economics of geothermal energy and heat networks / district heating • Support schemes for geothermal energy and heat networks / district heating

Recommended Prerequisites	Participation at module on "Fluid Dynamics" recommended
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 2 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	• Script (slides) • Reference books • R. di Pippo: Geothermal Power Plants Principles, Applications, Case Studies and Environmental Impact 4th Edition, Elsevier, 2015 • George L. Danko: Model Elements and Network Solutions of Heat, Mass and Momentum Transport Processes, Springer-Verlag GmbH. 2016.
Module Examination	Continuous Assessment (MCA)
Assessment Mode for Module Examination	• Written examination (duration 60 minutes) 60 % • 2 Seminar works (creating presentation slides) including presentation (duration 15 minutes, presentation ca. 10 slides) 40 %
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	20
Remarks	none
Module Components	• VL/Ü Geothermal Energy
Components to be offered in the Current Semester	322111 Lecture/Exercise Geothermal Energy - 4 Hours per Term

Module 14145 Electrochemical and Chemical Energy Storage and Conversion

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	14145	Compulsory elective

Modul Title	Electrochemical and Chemical Energy Storage and Conversion Elektrochemische und chemische Energiespeicherung und -wandlung
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr.-Ing. Mauß, Fabian
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	The lecture deals with electrochemical and chemical processes which are important for renewable energy storage and conversion. The lecture incorporates recent research from the Energy Innovation Center of BTU Cottbus-Senftenberg. Students acquire in-depth knowledge of thermodynamic processes, the reaction mechanisms of electro-catalysis, turbulent combustion of fuels and measurement devices to characterize surface and gas phase reactions. They are familiar with the simulation of the taught processes. Students gain in-depth knowledge of the subject area and are able to make scientifically sound judgments.
Contents	Introduction to electro-chemical energy storage and conversion • Power-to-X-to-Power energy and substance cycles • Energy balances and efficiencies • environmental impact ... Electrochemistry • Fundamentals • Electrode reaction and Butler-Volmer equation • Impedance spectroscopy • Electrolysis • Lithium-Ion-Battery • Simulation Synthesis & Conversion • Heterogeneous catalysis • Reactor types

	• Power-to-X-to-Power processes • Industrial applications • Surface spectroscopy • Modelling & Simulation
	Kinetics & Spectroscopy • Transition State Theory (TST), Thermodynamic Formulation of TST • Unimolecular Rate Theory Beyond Lindemann Mechanism • Introduction to Spectroscopy and Laser Diagnostics for Gases (diatomic/polyatomic Spectra, quantitative emission and absorption, LIF and its applications).
Recommended Prerequisites	• Thermodynamics • Heat and mass transfer • Chemistry
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Seminar - 2 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	Teaching materials: • Power point presentations
Module Examination	Final Module Examination (MAP)
Assessment Mode for Module Examination	• Written examination, 90 minutes
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	Starting in the 2026/27 winter semester, this course will no longer be offered.
Module Components	Lecture Seminar
Components to be offered in the Current Semester	No assignment

Module 14181 Master Thesis

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	14181	Mandatory

Modul Title	Master Thesis
	Master-Arbeit
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr. rer. nat. Röntzsch, Lars
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every semester
Credits	30
Learning Outcome	The students prove that they are able to process specific tasks under the guidance of a supervisor independently and successfully and can implement scientifically grounded theoretical and practical knowledge for the solution of problems.
Contents	The content of the thesis can be theoretically as well as practically oriented. It should correspond to the latest scientific knowledge in the educational field and should deal with the problems which occur in praxis. A Master thesis consists of a written work (which might include hardware and software components) and its defence.
Recommended Prerequisites	none
Mandatory Prerequisites	Students will be admitted to the Master's thesis if they have achieved at least 72 CP at the time of registration for the Master's thesis.
Forms of Teaching and Proportion	Research paper/essay - 900 hours
Teaching Materials and Literature	Required material will be provided by a thesis supervisor.
Module Examination	Continuous Assessment (MCA)
Assessment Mode for Module Examination	• Written paper (75%) • Presentation and colloquium (25%)
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none

Remarks The deadline for the written part of the Master's thesis is five months.

Module Components

**Components to be offered in the
Current Semester** No assignment

Module 14249 Control of Power-to-X, Storage and X-to-Power Systems

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	14249	Compulsory elective

Modul Title	Control of Power-to-X, Storage and X-to-Power Systems Regelung von Power-to-X, Speicher- und X-to-Power Systemen
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr.-Ing. Schiffer, Johannes
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	On the completion of this module, students should be able to: • Develop, use and assess dynamic models of Power-to-X, Storage and X-to-Power Systems • Understand core concepts from optimal control • Design controllers to optimize the plant operation
Contents	The module consists of lectures and exercises in combination with a final study project. In the module, the following topics are addressed for Power-to-X, Storage and X-to-Power Systems: • Dynamic modular modeling • Optimal control methods, especially model predictive control and reinforcement learning • Optimal operation control • Provision of ancillary services
Recommended Prerequisites	• Knowledge of Linear Algebra • Knowledge of Ordinary Differential Equations • Module 11747 Control Engineering 2.
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 1 hours per week per semester Practical training - 1 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	Will be named in the first lecture.
Module Examination	Continuous Assessment (MCA)

Assessment Mode for Module Examination	• Study project, corresponding to 40% of the final mark. Each group (3-4 students) should submit a report (10-15 pages) containing their developments and outcomes of the study project. Project updates have to be reported on a weekly or bi-weekly basis from the starting date of the project. • Written exam, corresponding to 60% of the final mark. Duration of 80 minutes. Printed and written materials like scripts or books are allowed. For calculations, non-programmable calculators are allowed. Any other type of electronic device is NOT allowed.
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	none
Module Components	Lecture, Exercise, Project Control of Power-to-X, Storage and X-to-Power Systems
Components to be offered in the Current Semester	320635 Lecture Control of Power-to-X, Storage and X-to-Power Systems - 2 Hours per Term 320636 Exercise Control of Power-to-X, Storage and X-to-Power Systems - 1 Hours per Term 320637 Study project Control of Power-to-X, Storage and X-to-Power Systems - 1 Hours per Term

Module 14414 Data Analytics and Process Modelling

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	14414	Compulsory elective

Modul Title	Data Analytics and Process Modelling Datenanalyse und Prozessmodellierung
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr. rer. nat. Röntzsch, Lars
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	The students learn to develop, evaluate and validate models, design experiments and analyse data. The focus is placed on practical applications, particularly in energy and process technology. Students are also familiarised with soft sensors and digital twins.
Contents	1. Basic Descriptive Statistics and Data Visualisation 2. Theoretical Foundation for Statistical Analysis 3. Regression Analysis 4. Design of Experiments 5. Input-State-Output Systems 6. Process Modelling and System Identification 7. Soft Sensors and Digital Twins
Recommended Prerequisites	Good knowledge of advanced mathematics as well as physics or a basic engineering subject (e.g. electrical engineering, mechanics or thermodynamics) at the university bachelor's level
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 2 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	Supplementary lecture materials and exercise assignments are made available via the Moodle learning management system. They are intended solely to support and accompany the lectures and exercises and cannot substitute for regular attendance, active participation, and the preparation of individual notes during class.

Further literature:

- Shardt, Yuri: Statistics for Chemical and Process Engineers. A Modern Approach. 2nd edition (2022). DOI: 10.1007/978-3-030-83190-5.
- Shardt, Yuri (2023): Using MATLAB to Solve Statistical Problems. DOI: 10.1007/978-3-031-40299-9.
- Shardt, Yuri (2024): Using Excel to Solve Statistical Problems. DOI: 10.1007/978-3-031-65449-7.

Module Examination	Final Module Examination (MAP)
Assessment Mode for Module Examination	• Written exam (120 min)
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	Students are expected to bring a laptop to the exercises.
Module Components	• Lecture/exercise Data Analytics and Process Modelling • Exam Data Analytics and Process Modelling
Components to be offered in the Current Semester	320410 Lecture/Exercise Data Analytics and Process Modelling - 4 Hours per Term 320471 Examination Data Analytics and Process Modelling

Module 44108 Thermal Process Engineering and Equilibrium Thermodynamics

assign to: Hydrogen, Geothermal Energy, Storage and Power Networks

Study programme Control of Renewable Energy Systems

Degree	Module Number	Module Form
Master of Science	44108	Compulsory elective

Modul Title	Thermal Process Engineering and Equilibrium Thermodynamics Thermische Prozesse und Gleichgewichtsthermodynamik
Department	Faculty 3 - Mechanical Engineering, Electrical and Energy Systems
Responsible Staff Member	Prof. Dr. rer. nat. Röntzsch, Lars
Language of Teaching / Examination	English
Duration	1 semester
Frequency of Offer	Every winter semester
Credits	6
Learning Outcome	The module provides knowledge about equilibrium thermodynamics and its important technical applications. Based on the fundamentals in thermodynamics of mixtures, the student will learn how to calculate phase equilibria of real multicomponent systems. Upon successful completion of this course, students will be able to calculate equilibrium processes as absorption and extraction. The apparatuses for this separation processes can be dimensioned.
Contents	• pvt behaviour of real fluids • Characterization of mixtures • State laws (virial equations, cubic state laws, generalized state laws) • Activity coefficient models (Wilson, NRTL, UNIQUAC ...) • Steam/liquid, liquid/liquid, and solid liquid equilibria • Thermal separation: absorption
Recommended Prerequisites	Strongly recommended: • Knowledge in mathematics • Physics, thermodynamics • Fundamentals in thermal process engineering
Mandatory Prerequisites	none
Forms of Teaching and Proportion	Lecture - 2 hours per week per semester Exercise - 2 hours per week per semester Self organised studies - 120 hours
Teaching Materials and Literature	• Lecture handouts, formulary, exercise materials available on Moodle

- Coulson, John M.: Coulson & Richardson's chemical engineering volume 2. Butterworth-Heinemann, Oxford 2002.
- Felder, Richard M.; Rousseau, Ronald: Elementary principles of chemical processes. Wiley, New York 2000.
- Reid, Robert; Prausnitz, John; Pohling, Bruce: The properties of gases and liquids. McGraw Hill, New York 1987.
- Seader, J. D.; Henley, E.J.: Separation Process Principles. Wiley-VCH, Chichester 2006.
- Hillert, Mats: Phase equilibria, phase diagrams and phase transformations. Cambridge Univ. Press, Cambridge 2008.

Module Examination	Continuous Assessment (MCA)
Assessment Mode for Module Examination	• 10 calculation exercises (50%), • oral test, 30 min (50%)
Evaluation of Module Examination	Performance Verification – graded
Limited Number of Participants	none
Remarks	none
Module Components	• Lecture Thermal Process Engineering and Equilibrium Thermodynamics • Exercise Thermal Process Engineering and Equilibrium Thermodynamics
Components to be offered in the Current Semester	320704 Lecture Thermal Process Engineering and Equilibrium Thermodynamics - 2 Hours per Term 320705 Exercise Thermal Process Engineering and Equilibrium Thermodynamics - 2 Hours per Term 320775 Examination Thermal Process Engineering and Equilibrium Thermodynamics

Erläuterungen

Das Modulhandbuch bildet als Teil der Prüfungsordnung die Rechtsgrundlage für ein ordnungsgemäßes Studium. Darüber hinaus soll es jedoch auch Orientierung bei der Gestaltung des Studiums geben.

Dieses Modulhandbuch wurde am 18. September 2026 automatisch für den Master (universitär)-Studiengang Control of Renewable Energy Systems (universitäres Profil), PO-Version 2025, aus dem Prüfungsverwaltungssystem auf Basis der Prüfungsordnung generiert. Es enthält alle zugeordneten Module einschließlich der ausführlichen Modulbeschreibungen mit Stand vom 18. September 2026. Neben der Zusammensetzung aller Veranstaltungen zu einem Modul wird zusätzlich das Veranstaltungsangebot für das jeweils aktuelle Semester gemäß dem Verzeichnis der BTU ausgegeben.

The module catalogue is part of the examination regulation and as such establishes the legal basis for studies according to the rules. Furthermore, it should also give orientation for the organisation of the studies.

This module catalogue was generated automatically by the examination administration system on the base of the examination regulation on the 18 September 2026, for the Master (universitär) of Control of Renewable Energy Systems (research-oriented profile). The examination version is the 2025, Catalogue contains all allocated modules including the detailed module descriptions from 18 September 2026. Apart from the composition of all components of a module, the list of lectures, seminars and events for the current semester according to the catalogue of lectures of the BTU is displayed.