



UNIVERSITÄT ZU LÜBECK

Module Guide for the Study Path

# Bachelor Interdisciplinary Courses



## Arbitrary semester

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**CS2450-KP02, CS2450 - Tools for scientific practice (Werkzeuge)**
**Duration:**

1 Semester

**Turnus of offer:**

each winter semester

**Credit points:**

2

**Course of study, specific field and term:**

- Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Computer Science 2019 (compulsory), interdisciplinary competence, 3rd semester
- Bachelor Medical Informatics 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Medical Informatics 2019 (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Computer Science 2016 (compulsory), interdisciplinary competence, 3rd semester
- Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Bachelor Media Informatics 2014 (optional subject), interdisciplinary competence, 5th or 6th semester
- Bachelor Computer Science 2014 (compulsory), interdisciplinary competence, 3rd semester

**Classes and lectures:**

- Tools for scientific practice (seminar-style lectures, 2 SWS)

**Workload:**

- 30 Hours private studies
- 30 Hours in-classroom work

**Contents of teaching:**

- Programming language Python
- Markup languages (LaTeX, Markdown)
- User Interfaces and Integrated Development Environments (Jupyter Notebook)
- Software for version control (git)
- digital libraries search (DBLP, ACM, IEEE) Scientific Computing (NumPy, SciPy)
- Data processing and visualization (Pandas, matplotlib, NLTK)
- Machine Learning (scikit-learn)
- DeepLearning (Tensorflow, PyTorch)

**Qualification-goals/Competencies:**

- The students know diverse technical tools for scientific work.
- They can apply important technical tools from the Python Ecosystem.
- They can handle version control and markup languages.
- They are able to select appropriate tools.

**Grading through:**

- exercises and project assignments

**Is requisite for:**

- Bachelor Thesis Computer Science (CS3990-KP15, CS3990)
- Bachelor Project Computer Science (CS3701-KP05, CS3701SJ14)
- Bachelor Seminar Informatics (CS3702-KP04, CS3702)

**Responsible for this module:**

- Studiengangsleitung Informatik

**Teacher:**

- [Institute of Information Systems](#)
- Alle prüfungsberechtigten Dozentinnen/Dozenten des Studienganges

**Language:**

- German and English skills required

**Notes:**

Prerequisites for attending the module:  
- None



EW2412-KP03 - Quality management (WFQM)		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 3
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"><li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li><li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li><li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li></ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"><li>• Quality Management (lecture, 2 SWS)</li></ul>	<b>Workload:</b> <ul style="list-style-type: none"><li>• 60 Hours private studies</li><li>• 30 Hours in-classroom work</li></ul>	
<b>Contents of teaching:</b> <ul style="list-style-type: none"><li>• basic concept of quality management</li><li>• composition and organisation of a QM-system</li><li>• Total Quality Management (TQM)</li><li>• quality system audit</li><li>• certification</li></ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"><li>• The students know the basic concept of quality management</li><li>• They understand the composition and organisation of a QM-system</li></ul>		
<b>Grading through:</b> <ul style="list-style-type: none"><li>• written exam</li></ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"><li>• Prof. Dr. med. Christian Sina</li></ul>		
<b>Teacher:</b> <ul style="list-style-type: none"><li>•</li></ul>		
<b>Literature:</b> <ul style="list-style-type: none"><li>• :</li></ul>		
<b>Language:</b> <ul style="list-style-type: none"><li>• offered only in German</li></ul>		

<b>GW3260-KP04 - Sociology of health (SodGH)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Sociology of health (seminar, 2 SWS)</li> </ul>	<b>Workload:</b> <ul style="list-style-type: none"> <li>• 90 Hours private studies</li> <li>• 30 Hours in-classroom work</li> </ul>	
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>• Explanatory approaches and concepts of health and disease</li> <li>• Social construct of health and illness</li> <li>• Social and cultural influences on health opportunities and disease risks</li> <li>• Social determinants of health and health care</li> <li>• Lifelong perspectives on health</li> <li>• Health from a Gender Perspective</li> <li>• Media construction of health</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>• The students can describe different social science explanatory models of health and illness</li> <li>• Students can reflect and critically analyze the social and socio-cultural causes and contexts of health and illness and their unequal distribution in society</li> <li>• The students can explain and analyze health risk constellations as well as the conditions under which socially unequal health opportunities arise over the course of a lifetime.</li> <li>• Students can critically discuss the influence of social media on health.</li> <li>• Students reflect on their own understanding of health and illness against the background of social science theories and models.</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• continuous, successful participation in course, &gt;80%</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• Prof. Dr. phil. Dipl.-Soz. Katja Götz</li> </ul>		
<b>Teacher:</b> <ul style="list-style-type: none"> <li>• Prof. Dr. phil. Dipl.-Soz. Katja Götz</li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• Hehlmann T, Schmidt-Semisch H, Schorb F.: Soziologie der Gesundheit - UVK Verlag, München 2018</li> <li>• Paul B, Schmidt-Semisch H.: Risiko Gesundheit. Über Risiken und Nebenwirkungen der Gesundheitsgesellschaft - VS Verlag für Sozialwissenschaften, Wiesbaden 2010</li> <li>• Richter M, Hurrelmann K.: Soziologie von Gesundheit und Krankheit - VS Springer, Wiesbaden 2016</li> <li>• Richter M, Hurrelmann K.: Gesundheitliche Ungleichheit. Grundlagen, Probleme, Perspektiven - VS Verlag für Sozialwissenschaften 2006</li> <li>• Franke A.: Modelle von Gesundheit und Krankheit - Verlag Hans Huber, Bern 2006</li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• German and English skills required</li> </ul>		
<b>Notes:</b>		



Prerequisites for attending the module:

- None

Prerequisites for the exam:

Holding a lecture and group work.

<b>LS2807-KP04 - Philosophy of Science (WissTheo)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> every summer semester	<b>Credit points:</b> 4
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li> <li>• Bachelor MLS 2018 (optional subject), life sciences, 4th semester</li> <li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor MLS 2016 (optional subject), life sciences, 4th semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Basic of evolution theory: Historical and phylosophical perspectives (lecture, 2 SWS)</li> <li>• Basic of evolution theory: Historical and phylosophical perspectives (seminar, 1 SWS)</li> </ul>		<b>Workload:</b> <ul style="list-style-type: none"> <li>• 75 Hours private studies</li> <li>• 45 Hours in-classroom work</li> </ul>
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• oral presentation and essay</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• Dr. phil. Staffan Müller-Wille</li> </ul>		
<b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute for History of Medicine and Science Studies</a></li> <li>• Dr. phil. Staffan Müller-Wille</li> <li>• <a href="#">Prof. Dr. med. Cornelius Borck</a></li> <li>• <a href="#">Prof. Dr. rer. nat. Burghard Weiss</a></li> <li>• <a href="#">Prof. Dr. phil. Christoph Rehmann-Sutter</a></li> <li>• <a href="#">Prof. Dr. phil Christina Schües</a></li> <li>• Dr. phil. Leonhard Menges</li> <li>• Dr. rer. nat. Schult</li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• S. Shapin: Die wissenschaftliche Revolution - Frankfurt a.M. 1998</li> <li>• M. Hagner: Ansichten der Wissenschaftsgeschichte - Frankfurt a.M., 2001</li> <li>• I. Hacking: Einführung in die Philosophie der Naturwissenschaften - Stuttgart 1983</li> <li>• Rheinberger, Hans-Jörg: Historische Epistemologie zur Einführung - Hamburg 2007</li> <li>• U. Krohs und G. Toepfer: Philosophie der Biologie: Eine Einführung - Frankfurt a.M. 2005.</li> <li>• I. Jahn: Grundzüge der Biologiegeschichte - Jena 1990</li> <li>• K. Köchy: Biophilosophie zur Einführung - Hamburg 2008</li> <li>• A. Brenner: Leben. Grundwissen Philosophie - Stuttgart 2009</li> </ul>		
<b>Language:</b>		



- offered only in German

**Notes:**

Part of the module LS2800

Basics understanding of molecular Biology; Interest in philosophical-ethical questions in the life sciences



PS1050-KP04 - Intercultural skills in higher education, work and society (IKKSBG)			
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4	<b>Max. group size:</b> 15
<b>Course of study, specific field and term:</b>			
<ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li> <li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester</li> </ul>			
<b>Classes and lectures:</b>		<b>Workload:</b>	
<ul style="list-style-type: none"> <li>• Intercultural skills in higher education, work and society (seminar, 3 SWS)</li> </ul>		<ul style="list-style-type: none"> <li>• 44 Hours in-classroom work</li> <li>• 40 Hours private studies</li> <li>• 35 Hours group work</li> </ul>	
<b>Contents of teaching:</b>			
<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>			
<b>Qualification-goals/Competencies:</b>			
<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>			
<b>Grading through:</b>			
<ul style="list-style-type: none"> <li>• continuous, successful participation in course</li> </ul>			
<b>Responsible for this module:</b>			
<ul style="list-style-type: none"> <li>• <a href="#">Prof. Dr. rer. nat. Till Tantau</a></li> </ul>			
<b>Teacher:</b>			
<ul style="list-style-type: none"> <li>• <a href="#">International Office</a></li> <li>• <a href="#">Dr. Imke Lode</a></li> <li>• <a href="#">Matthias Holzum</a></li> </ul>			
<b>Literature:</b>			
<ul style="list-style-type: none"> <li>• Ogette, Tupoka: exitRACISM. rassismuskritisch denken lernen</li> <li>• Gabriele Winker, Nina Degele: Intersektionalität: Zur Analyse sozialer Ungleichheiten</li> <li>• :</li> </ul>			
<b>Language:</b>			
<ul style="list-style-type: none"> <li>• offered only in German</li> </ul>			

**PS1100-KP06 - Social and Economic Aspects of Sustainability (OekoNach)**
**Duration:**

2 Semester

**Turnus of offer:**

beginning each winter semester

**Credit points:**

6

**Course of study, specific field and term:**

- Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester
- Master Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester

**Classes and lectures:**

- PS1100-V: Sustainable Bioeconomy (lecture, 1 SWS)
- EC4008-V: Entrepreneurship & Innovation (lecture, 3 SWS)
- PS1102-V: Social Classification of Sustainability Science (lecture, 1 SWS)
- PS1100-S: Social and Economic Aspects of Sustainability (seminar, 1 SWS)

**Workload:**

- 90 Hours in-classroom work
- 90 Hours private studies

**Contents of teaching:**

- The idea of sustainable development and its historical classification
- Foundations for theoretical concepts of sustainable development
- Fundamentals of sustainable development and its scientific resonance
- Basic concepts of sustainability ethics
- Fundamentals of the philosophy of science and transdisciplinary research
- Specific aspects of the methodology of sustainability science
- Corporate Sustainability, Entrepreneurship & Innovation
- Presentation and discussion of selected fields of action: Sustainability through climate protection using the example of peatland restoration, sustainable water management, cost avoidance through flood and coastal protection in Germany
- Connection between bioeconomy and sustainability using exemplary examples: The origin of biomass, the use of biomass for the production of fuel and chemicals, the bioeconomy from the perspective of innovation economics, the bioeconomy as a circular and interconnected system.
- Criteria for the success of the bioeconomy

**Qualification-goals/Competencies:**

- Students can understand the topics of sustainability, bioeconomy and biotechnology and explain them using examples
- They master the basics for the ecological, social and economic assessment of the sustainability of technological developments
- They have an understanding of which processes are sustainable in which areas (business, medicine, research, transfer) and which criteria they must meet
- They understand the bioeconomy system and the specifics of a sustainable bioeconomy
- They master the essential basics of ecology and its economic classification
- They understand the importance of the bioeconomy and sustainability in the field of entrepreneurship (management, digital economy, business management and spin-offs).
- They gain a general understanding of sustainability science and learn about its importance for society and current and future economic developments

**Grading through:**

- portfolio exam

**Responsible for this module:**

- [Prof. Dr. rer. nat. Charlie Kruse](#)

**Teacher:**

- Institute for Entrepreneurship and Business Development
- Institute of Medical and Marine Biotechnology
- [Prof. Dr. Christian Scheiner](#)
- [Prof. Dr. rer. nat. Charlie Kruse](#)
- Dr. rer. nat. Daniel Hans Rapoport
- Dr. rer. nat. Sandra Schumann



- Dr. rer. nat. Philipp Ciba
- Dr. rer. nat. Anna Mattheießen

**Literature:**

- Harald Heinrichs, Gerd Michelsen: Nachhaltigkeitswissenschaften - Springer Spektrum; 2014
- Joachim Pietzsch: Bioökonomie für Einsteiger - Springer Spektrum; 1. Aufl. 2017 Edition

**Language:**

- offered only in German

**Notes:**

Admission requirements for taking the module:

- No formal, but knowledge of natural sciences is required.

Admission requirements for participation in module examination(s):

- None

Module Exam(s):

- PS1100-L1: Social and Economic Aspects of Sustainability, portfolio examination consisting of: 15 marks in the form of an individual term paper, 45 marks in the form of a semester presentation and 40 marks in the form of the written examination. The grade is calculated as follows: 50 to 54 points for a 4.0, then 55 to 59 points for a 3.7, and so on until the end 95 to 100 points for a 1.0.

Not for students of the Master's program Entrepreneurship in Digital Technologies

**PS1500-KP05 - Sustainability Science with Focus on Ecology & Biotechnology (NachWiss)**
**Duration:**

1 Semester

**Turnus of offer:**

every summer semester

**Credit points:**

5

**Course of study, specific field and term:**

- Master Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester
- Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester

**Classes and lectures:**

- PS1500-V: Sustainability Science (lecture, 2 SWS)
- PS1500-S: Sustainability Science (seminar, 1 SWS)
- PS1500-Ü: Sustainability Science (exercise, 1 SWS)

**Workload:**

- 90 Hours private studies
- 60 Hours in-classroom work

**Contents of teaching:**

- Introduction to scientific perspectives on sustainability
- Basic concepts of ecosystem and biodiversity
- Foundations for food security and healthy nutrition in the context of the bioeconomy
- Review of the importance of biotechnology for the bioeconomy
- Significance of chemical substances in the environment
- Basics of global material cycles (earth system, climate)
- Conditions for a sustainable bioeconomy
- Basics on the importance of transgenic animals and plants

**Qualification-goals/Competencies:**

- Students can use examples to explain the terms sustainability, bioeconomy and biotechnology
- They can assess selected technological developments with regard to their influence on sustainability
- They will learn exemplary different processes to get a practical insight into the bioeconomy
- They understand the fundamental importance of biotechnology for a sustainable bioeconomy
- They will learn about examples of the close link between sustainable bioeconomy and biotechnology
- They will gain insight into the use of extracorporeal cell cultures, sustainable medical processes, and biomass production and utilization
- They will learn about the construction of recirculating systems or the ecologically sound use of marine biomass
- They can professionally evaluate the topics of sustainability and bioeconomy in new subject areas
- They have a profound knowledge to be able to assess technologies and processes with regard to their sustainability

**Grading through:**

- portfolio exam

**Requires:**

- Social and Economic Aspects of Sustainability (PS1100-KP06)

**Responsible for this module:**

- [Prof. Dr. rer. nat. Charlie Kruse](#)

**Teacher:**

- Institute of Medical and Marine Biotechnology
- [Prof. Dr. rer. nat. Charlie Kruse](#)
- Dr. rer. nat. Daniel Hans Rapoport
- Dr. rer. nat. Sandra Schumann
- Dr. rer. nat. Philipp Ciba
- Dr. rer. nat. Anna Mattheießen

**Literature:**

- Harald Heinrichs, Gerd Michelsen: Nachhaltigkeitswissenschaften - Springer Spektrum; 2014
- Joachim Pietzsch: Bioökonomie für Einsteiger - Springer Spektrum; 1. Aufl. 2017 Edition
- Reinhard Renneberg, Darja Süßbier, Viola Berkling, Vanya Lorch: Biotechnologie für Einsteiger - Springer Spektrum; 5. Aufl. 2018



- Daniela Thrän, Urs Moesenfechtel: Das System Bioökonomie - Springer Spektrum; 1. Aufl. 2020

**Language:**

- offered only in German

**Notes:**

Admission requirements for taking the module:

- PS1100-KP06 successfully completed

Admission requirements for participation in module examination(s):

- Successful participation in the seminar with lecture

Module Examination(s):

- PS1500-L1: Sustainability Science with a Focus on Ecology & Biotechnology, portfolio examination consisting of: 50 points in the form of a term paper completed independently during the semester and 50 points in the form of a presentation. The grade is calculated as follows: 50 to 54 points for a 4.0, then 55 to 59 points for a 3.7, and so on until the end 95 to 100 points for a 1.0.

**PS4620-KP04, PS4620SJ14 - Ethics of Sciences (EthikKP04)**
**Duration:**

1 Semester

**Turnus of offer:**

each summer semester

**Credit points:**

4 (Typ B)

**Course of study, specific field and term:**

- Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester
- Master Medical Informatics 2019 (optional subject), interdisciplinary competence, 1st or 2nd semester
- Bachelor MES 2014 (optional subject), no specific field, Arbitrary semester
- Master MES 2014 (optional subject), no specific field, 1st or 2nd semester
- Master Medical Informatics 2014 (optional subject), interdisciplinary competence, 1st or 2nd semester
- Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester

**Classes and lectures:**

- Ethics in the Life Sciences (seminar, 2 SWS)

**Workload:**

- 65 Hours private studies
- 30 Hours in-classroom work
- 25 Hours work on an individual topic with written and oral presentation

**Contents of teaching:**

- Societal and ethical implications of research in biomedical sciences and technologies
- Basics of philosophy and sociology of science
- Good scientific practice
- Basics of bioethics: duties of investigators, obligations to colleagues,
- Ethics of human subjects research and animal experiments, environmental ethics. Governance of technology, risk assessment
- Neuroethics
- Ethics of AI and robotics

**Qualification-goals/Competencies:**

- Students can explain the methodology of the physical sciences and technology and their philosophical basis
- They can recognize ethical dimensions of practice and deciding
- They can identify and assess ethical dimensions of action and decision-making in biotechnology and AI
- They can understand relevant laws in Germany
- They can participate in current discussions in bioethics and research ethics
- They can reflect on ethical dimensions of biomedical sciences

**Grading through:**

- continuous, successful participation in course

**Responsible for this module:**

- [Prof. Dr. phil. Christoph Rehmann-Sutter](#)

**Teacher:**

- [Institute for History of Medicine and Science Studies](#)
- [Prof. Dr. med. Cornelius Borck](#)
- [Prof. Dr. phil. Christoph Rehmann-Sutter](#)
- Prof. Dr. phil. Christina Schües
- Dr. phil. Frank Wörler

**Literature:**

- Urban Wiesing (Hg.): Ethik in der Medizin. Ein Studienbuch - Stuttgart: Reclam 5. Aufl. 2020
- Ben Mepham: Bioethics. An Introduction for the Biosciences - Oxford: Oxford University Press 2008
- Jennifer A. Parks, Victoria S. Wike: Bioethics in a Changing World - Upper Saddle River, N.J.: Prentice Hall, 2010

**Language:**

- offered only in English



**Notes:**

Prerequisites for attending the module:

- None

Prerequisites for the exam:

- Writing an essay and giving a lecture

<b>PS4630-KP04 - Ethics of Innovative Technologies (EthikIT)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Ethics of Innovative Technologies (seminar, 1 SWS)</li> <li>• Ethics of Innovative Technologies (lecture, 2 SWS)</li> </ul>	<b>Workload:</b> <ul style="list-style-type: none"> <li>• 30 Hours group work</li> <li>• 30 Hours in-classroom work</li> <li>• 30 Hours private studies</li> <li>• 30 Hours written report</li> </ul>	
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>• Basic concepts and methods of ethics</li> <li>• Ethical decision-making models</li> <li>• Autonomous systems in the context of social change</li> <li>• Case studies of new and unresolved ethical issues due to modern and emerging technologies</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>• Students recognise ethical problems and can formulate them concretely and precisely.</li> <li>• Students will be able to analyse future and existing technologies with regard to associated ethical issues.</li> <li>• Students can evaluate decisions in case studies on the basis of different ethical models.</li> <li>• Students can argue ethically and represent their opinion in discussions.</li> <li>• The students are familiar with fundamental future ethical issues regarding robotisation and the development of autonomous systems and artificial intelligences.</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• continuous, successful participation in course</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• <a href="#">Dr.-Ing. Christian Herzog</a></li> </ul>		
<b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute for Electrical Engineering in Medicine</a></li> <li>• <a href="#">Dr.-Ing. Christian Herzog</a></li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• : various topic-related and current literature</li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• German and English skills required</li> </ul>		
<b>Notes:</b> <p>Admission requirements for taking the module: - None</p> <p>Admission requirements for participation in module examination(s): - None</p> <p>Module Exam(s):</p> <ul style="list-style-type: none"> <li>- Submissions in groups will be required periodically during the semester, accounting for 20% of the final assessment.</li> <li>- At the end of the semester a report incl. a presentation (80%) is required, whereby the respective individual performance must be identified and will be evaluated separately.</li> <li>- The evaluation of the report is determined from: 70% individual performance + 30% overall evaluation of the report.</li> <li>- To successfully pass the course, you need to be evaluated at least in terms of a sufficient performance.</li> </ul>		





PS4670-KP04 - Studium Generale (StuGen)		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4 (Typ B)
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Master Artificial Intelligence 2023 (optional subject), for equivalence check, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li> <li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Studium Generale (, 1 SWS)</li> <li>• Studium Generale (seminar, 1 SWS)</li> </ul>		<b>Workload:</b> <ul style="list-style-type: none"> <li>• 60 Hours private studies</li> <li>• 30 Hours work on an individual topic with written and oral presentation</li> <li>• 30 Hours in-classroom work</li> </ul>
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>• Current social and political topics</li> <li>• Philosophical, cultural studies and contemporary history perspectives</li> <li>• Current discussions from science, politics and society</li> <li>• Text reading and discussions about specialized scientific texts</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>• Students can see through argumentation structures</li> <li>• They can increase their analysis, reflection and argumentation skills</li> <li>• Expand knowledge of social and political issues and their current debates.</li> <li>• Development of a cultural, philosophical, and contemporary historical understanding of the contexts of medicine, the natural sciences, the life sciences, technology, computer science, the health sciences, and psychology.</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• continuous, successful participation in course</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• <a href="#">Prof. Dr. phil Christina Schües</a></li> </ul> <b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute for History of Medicine and Science Studies</a></li> <li>• <a href="#">Prof. Dr. phil Christina Schües</a></li> <li>• <a href="#">Prof. Dr. med. Cornelius Borck</a></li> <li>• <a href="#">Prof. Dr. phil. Christoph Rehmann-Sutter</a></li> <li>• <a href="#">Dr. phil. Birgit Stammberger</a></li> <li>• externe Referent*innen</li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• :</li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• offered only in German</li> </ul>		
<b>Notes:</b>		



Prerequisites for attending the module:

- None

Prerequisites for the exam:

- Active participation in the seminar
- Written elaboration according to the requirements at the beginning of the semester

Module exam(s):

- PS4670-L1: Studium Generale, ungraded seminar, 0% of module grade, must be passed.

<b>PS4680-KP04 - About Racism and other -Isms (Rassls)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4 (Typ B)
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• About Racism and other -Isms (seminar, 2 SWS)</li> </ul>	<b>Workload:</b> <ul style="list-style-type: none"> <li>• 60 Hours private studies</li> <li>• 30 Hours work on an individual topic with written and oral presentation</li> <li>• 30 Hours in-classroom work</li> </ul>	
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>• Current social and political discussion on racism</li> <li>• Conceptual reappraisal of the historical, cultural and social background of e.g. race, gender or eugenics</li> <li>• Reading and discussion of scientific texts</li> <li>• Development of perspectives critical of racism</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>• Students can understand and evaluate the structures of concepts and arguments</li> <li>• Increasing their ability to analyse, reflect and argue</li> <li>• Expanding the knowledge in a subject area that is cross-disciplinary</li> <li>• Development of a philosophical, historical and cultural-theoretical understanding of the social contexts of psychology, medicine, natural and life sciences.</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• continuous, successful participation in course</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• <a href="#">Prof. Dr. phil Christina Schües</a></li> </ul> <b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute for History of Medicine and Science Studies</a></li> <li>• <a href="#">Prof. Dr. phil Christina Schües</a></li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• :</li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• German and English skills required</li> </ul>		
<b>Notes:</b> <p>Prerequisites for attending the module: - None</p> <p>Prerequisites for the exam: - Written preparation and giving a lecture during the semester</p>		

<b>PS5010-KP04 - Sustainable Power Supply (EnergieZuk)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 4 (Typ B)
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Sustainable Power Supply (lecture, 2 SWS)</li> <li>• Sustainable Power Supply (seminar and project work, 2 SWS)</li> </ul>		<b>Workload:</b> <ul style="list-style-type: none"> <li>• 60 Hours work on project</li> <li>• 50 Hours in-classroom work</li> <li>• 10 Hours excursion</li> </ul>
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• presentation</li> <li>• Oral examination</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• <a href="#">Prof. Dr. Martin Leucker</a></li> </ul> <b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute of Software Technology and Programming Languages</a></li> <li>• Dr. Matthias Meinefeld</li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• <a href="https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf">BP: BP Statistical Review of World Energy 2019 - https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2019-full-report.pdf</a></li> <li>• <a href="https://www.bdew.de/media/documents/Pub_20190603_BDEW-Energiemarkt-Deutschland-2019.pdf">BDEW: Energiemarkt Deutschland 2019 - https://www.bdew.de/media/documents/Pub_20190603_BDEW-Energiemarkt-Deutschland-2019.pdf</a></li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• offered only in German</li> </ul>		

**PS5810-KP04, PS5810 - Scientific Teaching and Tutoring (WLehrKP04)**
**Duration:**

1 Semester

**Turnus of offer:**

irregularly

**Credit points:**

4 (Typ B)

**Course of study, specific field and term:**

- Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester
- Master Computer Science 2019 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Entrepreneurship in Digital Technologies 2020 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester
- Master CLS 2016 (optional subject), Interdisciplinary modules, 3rd semester
- Master Entrepreneurship in Digital Technologies 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Master Media Informatics 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Master MES 2014 (optional subject), no specific field, 1st or 2nd semester
- Bachelor MES 2014 (optional subject), no specific field, Arbitrary semester
- Master Computer Science 2014 (optional subject), interdisciplinary competence, Arbitrary semester
- Master CLS 2010 (optional subject), interdisciplinary competence, 3rd semester
- Master Computer Science 2012 (optional subject), interdisciplinary competence, Arbitrary semester

**Classes and lectures:**

- Theory and Practice of Good Teaching (seminar, 1 SWS)
- Work as a tutor in a lecture (practical course, 2 SWS)

**Workload:**

- 60 Hours private studies and exercises
- 45 Hours oral presentation (including preparation)
- 15 Hours in-classroom work

**Contents of teaching:**

- Organizing and running a scientific lecture
- Basic didactics of scientific teaching
- Practical work in tutorials

**Qualification-goals/Competencies:**

- The participants are able to lead a student working group and to communicate technical issues to it appropriately.
- Basic pedagogical and didactical skills

**Grading through:**

- continuous participation in all courses of the module

**Responsible for this module:**

- [Prof. Dr. rer. nat. Nico Bunzeck](#)
- [Prof. Dr. rer. nat. Jürgen Prestin](#)

**Teacher:**

- [Institute for Mathematics](#)
- [Dr. rer. nat. Jörn Schnieder](#)
- Alle prüfungsberechtigten Dozentinnen/Dozenten des Studienganges
- Corinna Lütsch

**Language:**

- depends on the chosen courses

**Notes:**

The seminar must be attended before working as a tutor. This activity cannot be remunerated.

The course instructor in charge of the respective course will issue a certificate of achievement for the module.

<b>PY0000-KP02 - Study in a healthy way (GDSSOZMED)</b>		
<b>Duration:</b> 1 Semester	<b>Turnus of offer:</b> each winter semester	<b>Credit points:</b> 2
<b>Course of study, specific field and term:</b> <ul style="list-style-type: none"> <li>• Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester</li> <li>• Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester</li> </ul>		
<b>Classes and lectures:</b> <ul style="list-style-type: none"> <li>• Healthy studying lecture (lecture, 1 SWS)</li> <li>• Healthy studying course (seminar, 1 SWS)</li> </ul>		<b>Workload:</b> <ul style="list-style-type: none"> <li>• 30 Hours work on project</li> <li>• 30 Hours in-classroom work</li> </ul>
<b>Contents of teaching:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>		
<b>Qualification-goals/Competencies:</b> <ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>		
<b>Grading through:</b> <ul style="list-style-type: none"> <li>• continuous participation (&gt;80%)</li> </ul>		
<b>Responsible for this module:</b> <ul style="list-style-type: none"> <li>• Prof. Dr. med. Edgar Voltmer</li> </ul> <b>Teacher:</b> <ul style="list-style-type: none"> <li>• <a href="#">Institute for Social Medicine and Epidemiology</a></li> <li>• <a href="#">Institute of Anatomy</a></li> <li>• <a href="#">PD Dr. med. Thomas Kötter, MPH</a></li> <li>• <a href="#">Dr. med. Imke Weyers</a></li> <li>• <a href="#">Juliana Wiechert, Dipl.-Psych.</a></li> <li>• <a href="#">Katrin Obst, Dipl.-Psych.</a></li> </ul>		
<b>Literature:</b> <ul style="list-style-type: none"> <li>• :</li> <li>• :</li> <li>• :</li> </ul>		
<b>Language:</b> <ul style="list-style-type: none"> <li>• offered only in German</li> </ul>		