



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 in-classroom work
- 30 Hours private studies

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 Computer Engineering](#)
- Alle prüfungsberechtigten Dozentinnen/Dozenten des Studienganges

Language:

- German and English skills required

Notes:

Prerequisites for attending the module:
- None

CS3208-KP04 - Responsible Use of Generative AI (GENAI)
Duration:

1 Semester

Turnus of offer:

each winter semester

Credit points:

4

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:

- CS3208-P: Responsible Use of Generative AI (not for medical students) (project work, 1 SWS)
- CS3208-V: Responsible Use of Generative AI (lecture, 2 SWS)

Workload:

- 45 Hours work on project
- 45 Hours private studies
- 30 Hours in-classroom work

Contents of teaching:

- Introduction - An overview of tools, possibilities and discourses on generative AI
- Fundamentals of Technology 1 - Basic Modes of Operation
- Fundamentals of Technology 2 - Adaptation to Social Norms
- Application basics - How to proceed when using generative AI?
- Psychological implications - effects on experience, motivation and skills in the workplace
- Use cases 1 - General productivity and scientific writing
- Use cases 2 - Research
- Use cases 3 - Training
- Use cases 4 - Medicine
- AI and security - The risks of AI in safety-critical applications
- Legal and Ethical Aspects - Intellectual Property, Privacy and Societal Challenges
- Sustainability - Environmental Costs
- The future - outlook on future possibilities and limitations

Qualification-goals/Competencies:

- Students will be able to explain the basic functioning and technology of generative AI in general content production.
- Students recognise the ethical and societal challenges of generative AI technologies and can formulate these concretely and precisely.
- Students are able to critically evaluate the impact of generative AI on their tasks.
- Students are able to use the potential of generative AI responsibly and reflectively in their studies and future work.
- The students know the basic legal framework around generative AI applications.
- Students are aware of the social and environmental implications of generative AI applications.

Grading through:

- continuous, successful participation in course
- presentation
- project work

Responsible for this module:

- [Prof. Dr.-Ing. Christian Herzog](#)

Teacher:

- [Institute for Electrical Engineering in Medicine](#)
- [Prof. Dr.-Ing. Christian Herzog](#)
- [Prof. Dr. Corinna Peifer](#)
- [Dr. Maria Henke](#)
- Roman Spendler
- Prof. Dr. rer. nat. Floris Ernst
- [Prof. Dr. rer. nat. habil. Ralf Möller](#)
- Prof. Dr. André Calero Valdez
- [Prof. Dr. med. Jürgen Westermann](#)
- Prof. Dr. Doris Weißels
- Prof. Dr. Maximilian Schüler



Literature:

- : Various further literature from science and journalism

Language:

- German or English

Notes:

Admission requirements for taking the module:

- None

Admission requirements for participation in module examination(s):

- None

Module-Exam(s):

CS3208-L1: Responsible Use of Generative AI, successful submission and presentation of a semester-long project, 100% of the (non-existent) module grade

Rooms:

Lecture:

- Mon 10:00 - 12:00, Seminar room Mathematics 1 (Hilbert)

Project:

- Mon 12:00 - 14:00, Seminar room Mathematics 2 (Banach)

CS3510-KP04 - Data protection law and information security (DatInfoSec)		
Duration: 1 Semester	Turnus of offer: every summer semester	Credit points: 4 (Typ B)
Course of study, specific field and term: <ul style="list-style-type: none"> • Master Medical Informatics 2019 (optional subject), interdisciplinary competence, 1st or 2nd semester • Bachelor Medical Informatics 2019 (optional subject), interdisciplinary competence, 4th to 6th semester • Master Interdisciplinary Courses (optional subject), interdisciplinary, Arbitrary semester • Bachelor Interdisciplinary Courses (optional subject), interdisciplinary, Arbitrary semester 		
Classes and lectures: <ul style="list-style-type: none"> • CS3510-V: Data protection law and information security (lecture, 2 SWS) • CS3510-Ü: Data protection law and information security (exercise, 1 SWS) 		Workload: <ul style="list-style-type: none"> • 60 Hours private studies • 40 Hours in-classroom work • 20 Hours exam preparation
Contents of teaching: <ul style="list-style-type: none"> • • • 		
Qualification-goals/Competencies: <ul style="list-style-type: none"> • Students can recognize and apply the legal framework for data protection and information security for persons who are responsible for a data processing system. • Students can assess what they need to consider legally when developing, implementing and operating data processing systems. 		
Grading through: <ul style="list-style-type: none"> • written exam 		
Responsible for this module: <ul style="list-style-type: none"> • Prof. Dr. Thomas Eisenbarth Teacher: <ul style="list-style-type: none"> • Institute for IT Security • externe Referent*innen 		
Literature: <ul style="list-style-type: none"> • : • : • : • : • : 		
Language: <ul style="list-style-type: none"> • offered only in German 		
Notes: <p>Admission requirements for taking the module(s): - None</p> <p>Admission requirements for participation in module examination(s) - None</p> <p>Module examination: - CS3510-KP04 Data protection law and information security Written exam, 100 % of the module grade</p>		

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

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



Prerequisites for attending the module:

- None

Prerequisites for the exam:

Holding a lecture and group work.

LS2807-KP04 - Philosophy of Science (WissTheo)		
Duration: 1 Semester	Turnus of offer: every summer semester	Credit points: 4
Course of study, specific field and term: <ul style="list-style-type: none"> • Bachelor Molecular Life Science 2024 (optional subject), interdisciplinary competence, 4th or 6th semester • Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester • Bachelor MLS 2018 (optional subject), life sciences, 4th semester • Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester • Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester • Bachelor MLS 2016 (optional subject), life sciences, 4th semester 		
Classes and lectures: <ul style="list-style-type: none"> • Basic of evolution theory: Historical and phylosophical perspectives (lecture, 2 SWS) • Basic of evolution theory: Historical and phylosophical perspectives (seminar, 1 SWS) 		Workload: <ul style="list-style-type: none"> • 75 Hours private studies • 45 Hours in-classroom work
Contents of teaching: <ul style="list-style-type: none"> • • • • • 		
Qualification-goals/Competencies: <ul style="list-style-type: none"> • • • • 		
Grading through: <ul style="list-style-type: none"> • oral presentation and essay 		
Responsible for this module: <ul style="list-style-type: none"> • Dr. phil. Staffan Müller-Wille 		
Teacher: <ul style="list-style-type: none"> • Institute for History of Medicine and Science Studies • Dr. phil. Staffan Müller-Wille • Prof. Dr. med. Cornelius Borck • Prof. Dr. rer. nat. Burghard Weiss • Prof. Dr. phil. Christoph Rehmann-Sutter • Prof. Dr. phil. Christina Schües • Dr. phil. Leonhard Menges • Dr. rer. nat. Schult 		
Literature: <ul style="list-style-type: none"> • S. Shapin: Die wissenschaftliche Revolution - Frankfurt a.M. 1998 • M. Hagner: Ansichten der Wissenschaftsgeschichte - Frankfurt a.M., 2001 • I. Hacking: Einführung in die Philosophie der Naturwissenschaften - Stuttgart 1983 • Rheinberger, Hans-Jörg: Historische Epistemologie zur Einführung - Hamburg 2007 • U. Krohs und G. Toepfer: Philosophie der Biologie: Eine Einführung - Frankfurt a.M. 2005. • I. Jahn: Grundzüge der Biologiegeschichte - Jena 1990 • K. Köchy: Biophilosophie zur Einführung - Hamburg 2008 • A. Brenner: Leben. Grundwissen Philosophie - Stuttgart 2009 		



Language:

- 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)			
Duration: 1 Semester	Turnus of offer: each winter semester	Credit points: 4	Max. group size: 15
Course of study, specific field and term: <ul style="list-style-type: none"> • Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester • Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester • Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester 			
Classes and lectures: <ul style="list-style-type: none"> • Intercultural skills in higher education, work and society (seminar, 3 SWS) 		Workload: <ul style="list-style-type: none"> • 40 Hours private studies • 38 Hours in-classroom work • 22 Hours group work 	
Contents of teaching: <ul style="list-style-type: none"> • • • • • • • • 			
Qualification-goals/Competencies: <ul style="list-style-type: none"> • • • • • • 			
Grading through: <ul style="list-style-type: none"> • continuous, successful participation in course • Group work • Active Participation 			
Responsible for this module: <ul style="list-style-type: none"> • Prof. Dr. rer. nat. Till Tantau Teacher: <ul style="list-style-type: none"> • International Office • Dr. Imke Lode • Matthias Holzum 			
Literature: <ul style="list-style-type: none"> • Hyatt, Millay: Critical Whiteness: Weißsein als Privileg - Erscheinungsjahr: 2015 • Hofstede, Geert; Hofstede, Gert Jan: Cultures and Organizations. Software of the Mind - Erscheinungsjahr: 2005 • Özkan, Ibrahim: Das Fremde als Herausforderung in der Psychotherapie - Berufsverband Deutscher Psychologinnen und Psychologen. Tag der Psychologie 2014 			
Language: <ul style="list-style-type: none"> • offered only in German 			

PS1110-KP04 - Social Aspects of Sustainability (GesellNach)
Duration:

1 Semester

Turnus of offer:

each winter semester

Credit points:

4

Course of study, specific field and term:

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

Classes and lectures:

- PS1110-S: Social Aspects of Sustainability (seminar, 1 SWS)
- PS1102-V: Social classification of sustainability science (lecture, 1 SWS)

Workload:

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

Contents of teaching:

- The idea of sustainable development and its historical classification
- Foundations for theoretical concepts of sustainable development
- Foundations 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

Qualification-goals/Competencies:

- Students master the basics of ecological, social and economic assessment of the sustainability of technological developments.
- They have an understanding of which procedures are sustainable in which areas (business, medicine, research, transfer) and which criteria they must fulfil
- You will 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. Charli Kruse](#)

Teacher:

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

Literature:

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

Language:

- offered only in German

Notes:



Admission requirements for taking the module:

- None

Admission requirements for participation in module examination(s):

- Successful and regular participation in the seminar

Module Exam(s):

- PS1110-L1: Social Aspects of Sustainability, Portfolio exam consisting of: 30 points in the form of an individual term paper, 70 points in the form of a semester presentation, 100% of the (non-existent) module grade

PS1120-KP04 - Economic Aspects of Sustainability (OekoNach)		
Duration: 1 Semester	Turnus of offer: every summer semester	Credit points: 4
Course of study, specific field and term: <ul style="list-style-type: none"> • Bachelor Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester • Master Interdisciplinary Courses (optional subject), interdisciplinary competence, Arbitrary semester • Bachelor Interdisciplinary Courses for health sciences (optional subject), interdisciplinary competence, Arbitrary semester 		
Classes and lectures: <ul style="list-style-type: none"> • PS1120-S: Economic Aspects of Sustainability (seminar, 1 SWS) • PS1100-V: Sustainable bioeconomy (lecture, 1 SWS) 		Workload: <ul style="list-style-type: none"> • 60 Hours private studies • 30 Hours in-classroom work
Contents of teaching: <ul style="list-style-type: none"> • 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 the 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 the innovation economy, the bioeconomy as a closed-loop and interconnected system • Criteria for success of the bioeconomy 		
Qualification-goals/Competencies: <ul style="list-style-type: none"> • Students can understand the topics of sustainability, bioeconomy and biotechnology and explain them using examples • They understand the bioeconomy system and the specifics of a sustainable bioeconomy • They master the essential basics of ecology and their economic classification • They understand the importance of the bioeconomy and sustainability in the field of entrepreneurship (management, digital economy, business administration and spin-offs) 		
Grading through: <ul style="list-style-type: none"> • portfolio exam 		
Responsible for this module: <ul style="list-style-type: none"> • Prof. Dr. rer. nat. Charli Kruse 		
Teacher: <ul style="list-style-type: none"> • Institute of Medical and Marine Biotechnology • Prof. Dr. rer. nat. Charli Kruse • Dr. rer. nat. Daniel Hans Rapoport • Dr. rer. nat. Sandra Schumann • Dr. rer. nat. Philipp Ciba • Dr. rer. nat. Anna Mattheießen 		
Literature: <ul style="list-style-type: none"> • Harald Heinrichs, Gerd Michelsen: Nachhaltigkeitswissenschaften - Springer Spektrum 2014 • Joachim Pietzsch: Bioökonomie für Einsteiger - Springer Spektrum 1. Auflage 2017 Edition 		
Language: <ul style="list-style-type: none"> • offered only in German 		
Notes:		



Admission requirements for taking the module:

- None

Admission requirements for participation in module examination(s):

- Successful and regular participation in the seminar

Module Exam(s):

- PS1120-L1: Economic Aspects of Sustainability, Portfolio exam consisting of: 30 points in the form of an individual term paper, 70 points in the form of a semester presentation, 100% of the (non-existent) module grade

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

Responsible for this module:

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

Teacher:

- [Institute of Medical and Marine Biotechnology](#)
- [Prof. Dr. rer. nat. Charli 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 Loroch: 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:

- None

Admission requirements for participation in module examination(s):

- Successful and regular participation in the seminar

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, 100% of the (non-existent) module grade

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

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



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



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.

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

PS5010-KP04 - Sustainable Power Supply (EnergieZuk)		
Duration: 1 Semester	Turnus of offer: each winter semester	Credit points: 4 (Typ B)
Course of study, specific field and term: <ul style="list-style-type: none"> • Bachelor Interdisciplinary Courses for health sciences (optional subject), Interdisciplinary modules, Arbitrary semester • Master Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester • Bachelor Interdisciplinary Courses (optional subject), Interdisciplinary modules, Arbitrary semester 		
Classes and lectures: <ul style="list-style-type: none"> • Sustainable Power Supply (lecture, 2 SWS) • Sustainable Power Supply (seminar and project work, 2 SWS) 		Workload: <ul style="list-style-type: none"> • 60 Hours work on project • 50 Hours in-classroom work • 10 Hours excursion
Contents of teaching: <ul style="list-style-type: none"> • • • • • • • 		
Qualification-goals/Competencies: <ul style="list-style-type: none"> • • 		
Grading through: <ul style="list-style-type: none"> • presentation • Oral examination 		
Responsible for this module: <ul style="list-style-type: none"> • Prof. Dr. Martin Leucker Teacher: <ul style="list-style-type: none"> • Institute of Software Technology and Programming Languages • Dr. Matthias Meinefeld 		
Literature: <ul style="list-style-type: none"> • Energy Institute (EI): Statistical Review of World Energy - https://www.energyinst.org/statistical-review • BDEW: Die Energieversorgung 2022 Jahresbericht - https://www.bdew.de/service/publikationen/jahresbericht-energieversorgung/ 		
Language: <ul style="list-style-type: none"> • offered only in German 		

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.

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

PY3215-KP04 - Music and the Brain (MaB)		
Duration: 1 Semester	Turnus of offer: each winter semester	Credit points: 4
Course of study, specific field and term: <ul style="list-style-type: none"> • Bachelor Interdisciplinary Courses for health sciences (optional subject), psychology, Arbitrary semester • Bachelor Interdisciplinary Courses (optional subject), psychology, Arbitrary semester 		
Classes and lectures: <ul style="list-style-type: none"> • PY3215-S: Music and the Brain (seminar, 2 SWS) 	Workload: <ul style="list-style-type: none"> • 90 Hours private studies • 30 Hours in-classroom work 	
Contents of teaching: <ul style="list-style-type: none"> • Special musical abilities: synesthesia and perfect pitch • Deficits in musical perception and processing: amusia and musical anhedonia • Motor control while making music and corresponding movement disorders (focal dystonia) • Therapeutic use of music • Music performance anxiety and mental health in musicians • Music and memory, attention, and emotion 		
Qualification-goals/Competencies: <ul style="list-style-type: none"> • The students gain knowledge in perception, processing, production of music in humans • They gain the ability to present scientific and clinical results, as well as the critical discussion about research and publications • The students receive competences in personal development, especially regarding the communication and cooperation in a team by structured work in small groups with different backgrounds of profession 		
Grading through: <ul style="list-style-type: none"> • presentation 		
Responsible for this module: <ul style="list-style-type: none"> • Prof. Dr. rer. nat. Daniel S. Scholz 		
Teacher: <ul style="list-style-type: none"> • University of Music Lübeck • externe Referent*innen 		
Literature: <ul style="list-style-type: none"> • Altenmüller, E., Furuya, S., Scholz, D. S., & Ioannou, C. I. (2019): Brain Research in Music Performance - In M. H. Thaut & D. A. Hodges (Eds.), <i>The Oxford Handbook of Music and the Brain</i> (pp. 458-486). Oxford University Press, (2019) • Münte, T. F., Altenmüller, E., & Jäncke, L. (2002): The musician's brain as a model of neuroplasticity - <i>Nature Reviews Neuroscience</i>, (2002) • Vuust, P., Heggli, O. A., Friston, K. J., & Kringelbach, M. L.: <i>Music in the brain - Nature Reviews Neuroscience</i>, (2022) 		
Language: <ul style="list-style-type: none"> • English, except in case of only German-speaking participants 		
Notes: <p>Admission requirements for taking the module: - None</p> <p>Admission requirements for participation in module examination(s): - Successful seminar design in groups of 3 or 4 as specified at the beginning of the semester</p> <p>Module Exam(s): - PY3215-L1: Music and the Brain, presentation, 100% of the (non-existent) module grade</p>		