

**B.A./B.Sc. Program “Bachelor of Liberal Arts and Sciences”**  
**Module Handbook StuPo 2012 – Academic Year 2015/16**



This handbook provides all necessary information on the modules of the four-year bachelor program “Liberal Arts and Sciences” (LAS). The legal foundation for the LAS program is provided in the Bachelor of Liberal Arts and Sciences Study and Examination Regulations that were passed (in German) by the University Senate in its meeting on 25 April 2012 and approved by the Rector on 16 May 2012 (see Official Bulletins Volume 43, No. 55, pp. 212–232, 18 May 2012 for the first amendment and Volume 44, No. 55, pp. 907-910 for the second amendment). The [non-binding English version](#) is available on the UCF website.

## Contents

<b>1</b>	<b>Cores Modules</b> .....	<b>1</b>
1.1	Liberal Arts and Sciences – Backgrounds, Ideas, Challenges .....	1
1.2	Challenge of Interdisciplinarity .....	2
1.3	Exploring Complex Problems.....	3
1.4	Sharing Knowledge .....	4
1.5	Numerical Literacy.....	5
1.6	Theories of Knowledge .....	6
1.7	Knowledge in Context .....	7
1.8	Anthropology and Experience .....	8
1.9	Action, Rationality and Responsibility .....	9
1.10	Vision and Leadership.....	10
1.11	Culture and Communication.....	11
<b>2</b>	<b>Modules of the Major Culture and History</b> .....	<b>12</b>
2.1	Introduction to Culture and History.....	12
2.2	Culture as a Topic of Academic Inquiry .....	13
2.3	History as a Topic of Academic Inquiry.....	14
2.4	Culture and History up to the Early Modern Period .....	15
2.5	Culture and History since the Early Modern Period .....	16
2.6	Sociocultural Anthropology or Area Studies .....	17
2.7	Contemporary Art, Literature, Aesthetics or Music .....	18
2.8	Advanced Culture and History I .....	19
2.9	Advanced Culture and History II .....	20
2.10	Specialization Option: Culture.....	21
2.11	Specialization Option: History .....	22
<b>3</b>	<b>Modules of the Major Governance</b> .....	<b>23</b>
3.1	Introduction to Governance.....	23
3.2	Theoretical Foundations and Hermeneutical Methods .....	24
3.3	Qualitative and Quantitative Methods .....	25
3.4	Law .....	26
3.5	Economics.....	27
3.6	Comparative Government.....	28
3.7	Advanced Governance I.....	29

3.8	Advanced Governance II.....	29
3.9	Advanced Governance III.....	30
3.10	Specialization Option: Politics, Law, and Administration .....	31
3.11	Specialization Option: Economics.....	32
<b>4</b>	<b>Modules of the Major Life Sciences .....</b>	<b>33</b>
4.1	Introductory Module: Thought and Research in the Life Sciences .....	33
4.2	Mathematics and Physics for the Liberal Arts and Sciences .....	34
4.3	Biochemistry.....	35
4.4	Cell Biology .....	36
4.5	Physiology .....	37
4.6	Laboratory Work for the Life Sciences.....	38
4.7	Computer Science, Data Processing, and Modelling in the Life Sciences .....	39
4.8	Advanced Life Sciences I.....	40
4.9	Advanced Life Sciences II.....	41
4.10	Specialization Option: Life Sciences I.....	42
4.11	Specialization Option: Life Sciences II.....	43
<b>5</b>	<b>Modules of the Major Earth and Environmental Sciences .....</b>	<b>44</b>
5.1	Introductory Module: Thought and Research in the Earth and Environmental Sciences .....	44
5.2	Mathematics and Physics for the Liberal Arts and Sciences .....	45
5.3	Methods of Observing Nature .....	46
5.4	Chemistry .....	47
5.5	Earth Sciences .....	48
5.6	Ecology.....	49
5.7	Global Cycles of Matter and Materials .....	50
5.8	Environment and Health.....	51
5.9	Evolution and Dynamics of the Planetary System .....	52
5.10	Specialization Option: Earth and Environmental Sciences I.....	53
5.11	Specialization Option: Earth and Environmental Sciences II.....	54
<b>6</b>	<b>Electives .....</b>	<b>55</b>
6.1	Elective.....	55
6.2	Frontiers in Research.....	56
<b>7</b>	<b>Language.....</b>	<b>57</b>
7.1	Language .....	57

## 1 Cores Modules

1.1 Liberal Arts and Sciences – Backgrounds, Ideas, Challenges			# 2100
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Yearly, block I & II	Year	1
Duration	16 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Liberal Arts and Sciences (workgroup and lecture)		
Module Coordinator	Prof. Dr. W. Freitag		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	The module introduces the Liberal Arts and Sciences. It elucidates the historical background and current positioning of LAS in the national and international educational landscape and discusses the specific expectations and learning experience of students in an LAS framework. Special emphasis will be put on a concrete and practical introduction to the epistemological focus of the LAS study program.		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Basic knowledge of the historical genesis of LAS and contemporary developments in this approach to education.</li> <li>(2) Basic ability to classify and reflect upon one's own learning experiences in the LAS framework, and encouragement to do so.</li> <li>(3) Basic knowledge of epistemology and scholarly/scientific research, as well as approaches to critical reflection about these topics, particularly: <ul style="list-style-type: none"> <li>- methodological procedure in scholarship and research (experiment, systematic observation, modeling, hermeneutics, among others)</li> <li>- objectivity and subjectivity</li> <li>- the history and sociology of academic disciplines</li> </ul> </li> </ol>		
Methods of assessment & grading structure	3 ECTS, Block 1: a learning journal with three weekly entries, each of at least two pages; 3 ECTS, Block 2: an essay and a written examination.		

1.2 Challenge of Interdisciplinarity			# 2150
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Yearly, block 1	Year	4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Research Design Across Disciplines (lecture and workgroup)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This course is aimed at fourth-year students who, in their final year of LAS studies, should refine their academic skills and intensify contact with academic research, before embarking on writing the bachelor thesis.</p> <p>In the Lecture, the students will get the understanding of the expectations to academic research and communication in the different disciplines taught within the Liberal Arts and Sciences study program. They will acquire an understanding of the roles and relationships in independent research and writing projects. In addition to the Lecture, students chose and visit five research talks in any discipline, offered at the University of Freiburg during the whole winter semester aiming at intensifying and diversifying their direct contact with current academic research.</p> <p>In the Work Group, students will discuss the methods and challenges of academic work, will get hands-on experience of developing and refining their research questions and research plan, will get an advanced insight into the work with academic sources according to the accepted academic standards and will embark upon a small research and writing project. Work Groups are organized as a student-oriented teaching format and allow for an active involvement and exchange.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) understand standards of academic research and communication in different disciplines;</li> <li>(2) have refreshed and deepened the fundamental academic skills (working with sources, taking an informed position in an academic debate, planning the argument, writing according to academic standards);</li> <li>(3) more efficiently plan and manage and independent research and writing project.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (SL): Regular of attendance of and active participation in all the course's components.</p> <p>3 ECTS (PL): Written assignments.</p>		

1.3 Exploring Complex Problems			# 2200
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Yearly, block I	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Exploring Complex Problems (lecture and workgroup)		
Module Coordinator	Dr. S. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	The module covers two basic skills of scholarly work: literature research and presentation of a topic in a talk. It will impart theoretical knowledge on the skills while at the same time practice them on current complex problems. The students will learn how to independently research literature, how to summarize its content, how to use it in an essay, and how to present a topic to a particular audience. Throughout the whole module the research practices and traditions in different disciplines will be addressed.		
Learning Goals	Upon successful completion of this module, students are able to... (1) Recognize and classify different forms of knowledge and their usage. (2) Identification and classification of scholarly and non-scholarly texts. (3) Find literature on a particular topic in libraries, search engines and literature data bases. (4) The ability to understand and summarize simple scholarly texts. The ability to present a topic to peers within a given time frame.		
Methods of assessment & grading structure	3 ECTS, students give an effective and structured presentation about a topic to their peers (time restricted) AND satisfactory participation in workgroup activities; 3 ECTS, 2 Graded Examinations: an essay (750–1,000 words) on the presentation of a topic in different sources (40 %) AND an annotated bibliography based on about 10–20 sources (60 %).		

1.4 Sharing Knowledge			# 2250
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Yearly, block II	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Sharing Knowledge (lecture and workgroup)		
Module Coordinator	Dr. R. Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This module introduces students to the challenges of sharing knowledge through written expression. One overarching goal is to explore how writing is not simply a passive medium of communication but also a social activity that involves many actors and has multiple effects in the world. To that end, writing skills are developed in response to one of a set of complex social, intellectual, and cultural problems that provide the topical material for the work group.</p> <p>Particular emphasis is put on the genre of the short, thesis-based essay that deploys logic, evidence, and rhetoric in order to both inform and persuade an audience. Over the Block, the students develop an essay relevant to one of the set of specific topics. This development involves preparatory writing, research, outlining, drafting, and revising in progressive stages.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) think of writing as a process with multiple stages, including preparation, composition, and revision.</li> <li>(2) employ basic writing skills such as outlining, free-writing, and self-directed revision.</li> <li>(3) organize and effectively recapitulate information to others in writing.</li> <li>(4) give appropriate attention to context—including audience, situation, genre, and discipline—in writing.</li> <li>(5) argue for a well-informed opinion in writing with evidentiary, logical, and rhetorical rigor.</li> <li>(6) recognize the importance of clear and convincing writing to scholarship and other forms of sharing knowledge.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS, satisfactory participation in workgroup activities; 3 ECTS, A provisional 250–500 words research statement and outline for thesis-based, persuasive essay on a topic related to their work group (30 %) AND a polished thesis-based, persuasive essay (2,000–2,500 words) based on independent research and developed over multiple stages (70 %).</p>		

1.5 Numerical Literacy			# 2300
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Yearly, block IV	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Dealing with Numerical Information – (lecture and workgroup)		
Module Coordinator	Dr. Simon Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>The module introduces the usage of numerical data and techniques in scientific, as well as non-scientific work. Students learn different forms of data illustration and falsification. They procure basic theoretical and practical knowledge of probability theory and descriptive and analytical statistics.</p> <p>Basic theoretical knowledge of probability theory and descriptive and analytical statistics are presented during lectures and practiced in exercise tutorials. The acquired knowledge is put in context, discussed and applied in work-groups and software tutorials using the statistics package R.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Interpret and analyse numerical and graphical information.</li> <li>(2) Illustrate numerical data meaningfully.</li> <li>(3) Recall key concepts of probability theory, descriptive and inference statistics.</li> <li>(4) Apply basic descriptive and analytical statistics to different sets of data.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS, attendance during work group and software tutorials and satisfactory participation in class activities;</p> <p>3 ECTS, formal written exam (90 min). Requirement to be admitted to the exam: 50 % of all possible points awarded for correct answers in the exercises).</p>		

1.6 Theories of Knowledge			# 2350
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Winter Semester	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture, work groups		
Module Coordinator	Prof. Dr. W. Freitag		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	This is a core module of the LAS program which teaches students key issues concerning the methodological foundations of science and academic scholarship. Of special relevance are the disciplines of the History and the Philosophy of Science; there will always be a strong focus on the Logic of Science (in the wide sense).		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) describe and explain the fundamental concepts of science, e.g., 'theory', 'observation', 'experiment'.</li> <li>(2) discuss different conceptions of scientific explanation and confirmation.</li> <li>(3) reflect upon the (alleged) rationality and objectivity of science.</li> <li>(4) analyse the difference between a normative and a socio-historical view on science.</li> <li>(5) contrast the perspective of this module with the perspective of the corresponding module Knowledge in Context.</li> </ol>		
Methods of assessment & grading structure	Oral or written		

1.7 Knowledge in Context			# 2400
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught	Winter Semester	Year	2-4
Duration	14 weeks	Credit Points	6 ECTS
Workload	180 h (of which 42 SWS=45min attendance)	Language	English
Course Format	Lecture, workgroup		
Module Coordinator	Prof. Dr. V. Lipphardt		
Convener	Prof. Dr. W. Freitag		
Prerequisites	none		
Module content & objectives	This is a fundamental module of the LAS program which teaches students how the construction, circulation, usage and negotiation of knowledge can be described and analyzed as sociocultural and historical phenomena. Of special relevance are the disciplines of History of Knowledge and Sociology of Knowledge. The emphasis may vary, but there will always be a strong empirical element to the module.		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Describe and explain fundamental elements of a sociocultural perspective on knowledge.</li> <li>(2) Apply the general outlook of at least one of the key disciplines of the module to at least one empirical setting (e.g. the analysis of struggles between competing knowledge systems, history of professionalization, sociology of expert knowledge in everyday life, history of regulation and standardization).</li> <li>(3) Analyse, compare and contrast some key works in the field.</li> <li>(4) Contrast the perspective of this module with the perspective of the corresponding module Theory of Knowledge.</li> <li>(5) Formulate tentative research questions that could be addressed to knowledge phenomena in the contemporary world.</li> </ol>		
Methods of assessment & grading structure	Oral or written		

1.8 Anthropology and Experience		# 2450	
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught		Year	1-2
Duration	4–8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): - Anthropology and Experience (seminar and workgroup) - The Person and her Role (seminar and workgroup)		
Module Coordinator	Dr. Matthias Möller		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This is the first course of the LAS Curriculum “Responsibility and Leadership.” It uses several perspectives to explore questions of human nature and personal identity that lie at the heart of any thorough understanding of responsible action.</p> <p>The Seminar draws on texts from Biology, Philosophy, Anthropology, Psychology and Sociology to explore how different academic disciplines put different emphases on what characterises human beings.</p> <p>The Work Group uses self-reflexive ideas and tools as a starting point for an exploration of one’s own actual experience as a human being, and discusses how those relate to the academic perspectives studied in the seminar.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) To realise that different academic disciplines have quite different views on human nature, and get acquainted with some classic disciplinary positions and approaches to that question.</li> <li>(2) To realise that implicit or explicit ideas on human nature can structure both scientific inquiry about humans and actual human behaviour.</li> <li>(3) To develop a clearer idea about one’s own assumptions and positions about what it means to be human, to be able to relate them critically to academic positions on that question, and to be able to sustain or challenge them in discussion.</li> </ol>		
Methods of assessment & grading structure	<p>Seminar: regular attendance and an essay of 1,800–2,000 words</p> <p>Work Group: regular active attendance</p>		

1.9 Action, Rationality and Responsibility			# 2500
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught		Year	1–4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture, work groups		
Module Coordinator	Dr. Matthias Möller		
Convener	Prof. Dr. W. Freitag		
Prerequisites	none		
Module content & objectives	<p>The module focuses on practical rationality and ethics. While the emphasis may vary in each seminar, it is concerned with questions of free will, the rationality of action and decision-making, and the ethical foundations and implications of human action. Of central relevance are the disciplines of Theoretical and Practical Philosophy, while Economics, Psychology and Cognitive Neuroscience may also play a key role. The module may involve up to 50 % of practical exploration through simulations, games etc.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) describe, understand and explain the fundamental concepts of the disciplinary perspectives emphasised, (e.g. 'agent', 'will', 'freedom', 'rationality'.)</li> <li>(2) discuss their fundamental dilemmas (e.g. in what sense agents can act freely and responsibly)</li> <li>(3) discuss possible conflicts that can occur between different rationalities and/or different ethical outlooks.</li> <li>(4) apply the theoretical insights to actual life-world examples</li> </ol>		
Methods of assessment & grading structure	Oral or written		

1.10 Vision and Leadership		# 2550	
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught		Year	3–4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar		
Module Coordinator	Dr. Matthias Möller		
Convener	Prof. Dr. W. Freitag		
Prerequisites	none		
Module content & objectives	This module aims at giving students both academic insights reflection and applicable skills in the area of leadership and responsible action in corporations and/or social organizations. The focus of individual courses may be more on the structural side (e.g. project management, organizational development, etc.) or more in the personal field (e.g. personal leadership styles, teamwork), but both aspects should be present.		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Describe and explain the relevance of leadership skills for making a difference in shaping the social world.</li> <li>(2) Demonstrate an understanding of the relationship between leadership, settings and personality.</li> <li>(3) Analyse, compare and contrast different approaches to leadership as discussed in the literature, with relevance to different tasks and settings.</li> <li>(4) Formulate problem-oriented suggestions for tackling leadership problems in the workplace and beyond.</li> <li>(5) Critically evaluate the pros and cons of such suggestions.</li> <li>(6) Critically evaluate the setting, advantages and limitations of the “leadership” discourse.</li> </ol>		
Methods of assessment & grading structure	<p>SL: Regular attendance, preparation of texts and active participation in interactive teaching formats (e.g. cases, simulation games etc.)</p> <p>PL: written work</p>		

1.11 Culture and Communication			# 2600
Study Area	Core		
Type of Module	Compulsory		
Frequency Taught		Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture, work groups		
Module Coordinator	Dr. Matthias Möller		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	This module aims at giving students both academic insights and applicable skills in the area of culture and communication. The emphasis of individual courses may vary, but makes special reference to at least one of the fields of social psychology, communication psychology, sociocultural anthropology, ethology, and international business.		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Describe and explain the relevance of cultural awareness and communication skills for effectively navigating the social and professional world.</li> <li>(2) Analyse, compare and contrast different approaches to communication and culture as discussed in the literature, with relevance to different types of situations.</li> <li>(3) Demonstrate an understanding of the interplay between communication, settings and personality, in their cultural context.</li> <li>(4) Formulate problem-oriented suggestions for tackling communicative and cultural problems in the workplace and beyond.</li> <li>(5) Critically evaluate different approaches to communication and culture as discussed in the literature, with a view to their theoretical persuasiveness and practical applicability</li> </ol>		
Methods of assessment & grading structure	<p>PL: Regular attendance, preparation of texts and active participation in interactive teaching formats (e.g. cases, simulation games etc.)</p> <p>SL: Written</p>		

## 2 Modules of the Major Culture and History

2.1 Introduction to Culture and History			# 3100
Study Area	Major		
Type of Module	Compulsory for Culture and History Majors Compulsory Elective for other Majors		
Frequency Taught	Three times per year, Blocks III and IV	Year	1-2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h at- tendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>In this module, students encounter and work with typical objects of study and research in the humanities: literary and philosophical texts, works of art, and customs or rituals. At the same time, they practice the scholarly methods of critical inquiry and interpretation that can be applied to these objects and practices.</p> <p>In the Seminar, students read and discuss important works, many of them classics in their field, which introduce the problems and promise of specific scholarly approaches to humanistic research and study.</p> <p>In the Work Group, students undertake the techniques of humanistic interpretation with specific cultural objects or practices.</p> <p>Although the objects and practices are not all necessarily derived from the same temporal or geographic context, students also learn to think about how cultural work emerges out of historical and other contexts.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) explain a range of interpretive approaches that can be taken to any given cultural object.</li> <li>(2) intelligently interpret a cultural object or practice at a basic level.</li> <li>(3) critically evaluate the strength of competing interpretations of a cultural object based on empirical evidence drawn directly from that object.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): a written examination of 1.5 hours AND/OR analytical/interpretive essay(s) of no more than 2500 words total. Specific details will be announced on the first day of the course.</p>		

2.2 Culture as a Topic of Academic Inquiry			# 3150
Study Area	Major		
Type of Module	Compulsory for Culture and History Majors Elective for other Majors		
Frequency Taught	Once per year	Year	2–3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>This module provides significant theoretical and/or methodological insight into the scholarly study of culture. "Culture" is explored as an analytical category and a theoretical orientation used by scholars to understand certain parts of the human experience: everyday life, custom and habit, identity and difference among human groups, hegemony and resistance beyond formal politics, and so on. Different understandings of culture demand different objects and means of study, so the module will also investigate the methods appropriate to the study of culture.</p> <p>In the Work Group, the module grounds the approach to theoretical and methodological issues in a specific case or cases. Hence, some courses will have geographic, period, or thematic content.</p> <p>In the Seminar, the theoretical and methodological focus may include: the problematic distinction between "high" and "low" culture, the culture disciplines (anthropology, ethnology, folklore, cultural studies, etc.), the high culture disciplines (art history, literary studies, etc.), (cultural) history, among others.</p> <p>The module is offered in varying forms. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) analytically distinguish between different scholarly approaches to the study of culture.</li> <li>(2) correctly use some of the specific vocabulary and conceptual tools shared by scholars of culture.</li> <li>(3) connect material from other modules into a more comprehensive understanding of the study of culture.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): an analytical/interpretive essay of no more than 5,000 words AND/OR a written examination of no more than 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.3 History as a Topic of Academic Inquiry			# 3200
Study Area	Major		
Type of Module	Compulsory for Culture and History Majors Elective for other Majors		
Frequency Taught	Once per year	Year	2–3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>This module provides significant theoretical and/or methodological insight into the scholarly and scientific study of history. "History" is explored as an object of study (the past), as an academic discipline (History or "historiology") and as a genre of writing (historiography).</p> <p>In the Work Group, the module grounds the approach to theoretical and methodological issues in a specific case or cases. Hence, some courses will have geographic, period, or thematic content.</p> <p>In the Seminar, the theoretical focus may include: positivism, empiricism, objectivity in history, the linguistic/experiential/affective turn, the history of History, challenges of historical representation, the relationships between academic/public/amateur historical work, or the range of ways in which historicism informs other disciplines, among others.</p> <p>Specific versions of this module may include a methodological focus on: source criticism, problems of representation, archival research methods, crowd-sourcing in the collection historical sources, among others.</p> <p>The module is offered in varying forms. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) analytically distinguish between different scholarly approaches to the study of the past.</li> <li>(2) correctly use some of the specific vocabulary and conceptual tools shared by historians and other scholars who study the past.</li> <li>(3) connect material from other modules into a more comprehensive understanding of the study of the past.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): an analytical/interpretive essay of no more than 5,000 words AND/OR a written examination of no more than 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.4 Culture and History up to the Early Modern Period			# 3500
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	1–3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module students encounter the cultural and historical study of a pre-modern geographical and temporal context (up to around 1800, depending on the specific topic). In doing so, they learn how to work with the typical source materials for the study of pre-modern societies and cultures.</p> <p>The Work Group substantively develops students' knowledge about a specific pre-modern society and culture. Emphasis may be put on cultivating general historical context, exploration of a theme or problem, or working with a specific body of source materials.</p> <p>The Seminar develops students' theoretical and methodological knowledge and abilities in ways suited to the study of pre-modern societies and cultures. Methodological and theoretical points of focus may include archaeology, hermeneutics, literary theory, reception analysis, the analysis of visual culture, or historical methods, among others.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) demonstrate mastery of the specific body of knowledge about a pre-modern society or culture covered in the Work Group.</li> <li>(2) apply their methodological and theoretical learning from the Seminar to the specific topical material studied in the Work Group.</li> <li>(3) relate their learning about pre-modern societies to contemporary problems and issues.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically an essay not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.5 Culture and History since the Early Modern Period			# 3550
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	1-3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module students encounter the cultural and historical study of a modern geographical and temporal context (since around 1800, depending on the specific topic). In doing so, they learn how to work with the typical source materials for the study of modern societies and cultures.</p> <p>The Work Group substantively develops students' knowledge about a specific topic chosen by the instructor. Emphasis may be put on cultivating general historical context, exploration of a theme or problem, or working with a specific body of source materials.</p> <p>The Seminar develops students' theoretical and methodological knowledge and abilities in ways suited to the study of modern societies and cultures. Methodological and theoretical points of focus may include oral history and memory studies, (historical) sociology and anthropology, modern social theory, literary studies, art history, or historical methods, among others.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to ...</p> <ol style="list-style-type: none"> <li>(1) demonstrate mastery of the specific body of knowledge about a modern society or culture covered in the Work Group.</li> <li>(2) apply their methodological and theoretical learning from the Seminar to the specific topical material studied in the Work Group.</li> <li>(3) relate their learning about modern societies to contemporary problems and issues.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically an essay not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.6 Sociocultural Anthropology or Area Studies		# 3600	
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	1-3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module students encounter some geographic or social space of human cultural activity. They develop their capacity to learn about, research, and understand human cultures by reflecting on the theories and practicing the methods of sociocultural anthropology and related disciplines. The emphasis in this module is on synchronic rather than the diachronic study of culture, although some versions may include a historical element.</p> <p>The Work Group substantively develops students' knowledge about a specific cultural realm (a region, a culture group), a cultural theme/problem (violence, leisure, etc.), or both.</p> <p>The Seminar substantively develops students' theoretical and methodological knowledge and abilities in ways suited to the synchronic study of human cultures. Methodological and theoretical points of focus may include ethnography, ethnology, anthropology, social and cultural theory, media studies, gender studies, or postcolonial studies, among others.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to</p> <ol style="list-style-type: none"> <li>(1) demonstrate mastery of the specific body of knowledge about a culture covered in the Work Group.</li> <li>(2) apply their methodological and theoretical learning from the Seminar to the specific topical material studied in the Work Group.</li> <li>(3) relate their learning about a specific space of human cultural activity to the study of other kinds of objects of research in the humanities.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically a written assignment (essay, ethnographic report, or similar) not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.7 Contemporary Art, Literature, Aesthetics or Music			# 3650
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	1-3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module, students learn about specific works of art (visual, literary, musical, performance, or other) as well as the theories and methodologies used in the critical analysis, interpretation, and evaluation of such works. The socio-cultural and historical horizon of artistic production and reception are also considered. Although specific versions of the module may have an art historical emphasis, all versions address contemporary problems of art and aesthetics.</p> <p>The Work Group substantively develops students' knowledge about specific works of art, traditions of artistic production, or contexts of artistic reception.</p> <p>The Seminar substantively develops students' theoretical and methodological knowledge and abilities in ways suited to the study of art and aesthetics. Points of focus may include aesthetic theory, reception theory, cultural studies, formal analysis, or art history, among others.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to</p> <ol style="list-style-type: none"> <li>(1) demonstrate mastery of the specific body of knowledge about art and aesthetics covered in the Work Group.</li> <li>(2) apply their methodological and theoretical learning from the Seminar to the specific topical material studied in the Work Group.</li> <li>(3) relate their learning about art and aesthetics to the study of other kinds of objects of research in the humanities.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically an essay not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of the course.</p>		

2.8 Advanced Culture and History I			# 3700
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught		Year	2–4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h at- tendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module, students expand their knowledge and training in the humanities by further study in an area they have already encountered.</p> <p>Students can choose among courses offered as one of the other Compulsory Electives within the Culture and History Major, and sometimes courses will be offered exclusively as Advanced Culture and History I/II.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	Dependent upon the specific course. Consult the course catalogue and instructor in the relevant Block.		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically a written assignment not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of a course.</p>		

2.9 Advanced Culture and History II			# 3750
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught		Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module, students expand their knowledge and training in the humanities by further study in an area they have already encountered.</p> <p>Students can choose among courses offered as one of the other Compulsory Electives within the Culture and History Major, and sometimes courses will be offered exclusively as Advanced Culture and History I/II.</p> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	Dependent upon the specific course. Consult the course catalogue and instructor in the relevant Block.		
Methods of assessment & grading structure	<p>3 ECTS (Assessed Coursework): satisfactory participation in the module and its associated activities (including adequate attendance according to the LAS policy), satisfactory completion of all required small assignments.</p> <p>3 ECTS (Graded Examination): typically a written assignment not to exceed 5,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of a course.</p>		

2.10 Specialization Option: Culture			# 3800
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module, students deepen their knowledge and training in the humanities through research-oriented study of human culture. Research orientation can mean either focused investigation into a particular field of scholarly research or independent research undertaken at an undergraduate level.</p> <p>The module can be fulfilled in three ways:</p> <ol style="list-style-type: none"> <li>(1) Some courses offered as one of the other Compulsory Electives within the Culture and History Major will simultaneously be offered at a more advanced level and with a research-orientation.</li> <li>(2) Sometimes advanced courses will be offered specifically for this module.</li> <li>(3) Students may also undertake a Supervised Independent Study, as per §6.9 and §6.12 of the StuPO. Guidelines and application procedure are available from LAS instructional staff.</li> </ol> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) demonstrate critical engagement with a specific body of humanistic scholarship relevant to the study of culture.</li> <li>(2) evaluate the possibilities and limits of specific humanistic theories and methods in approaching a specific cultural object (or set of objects) of study.</li> <li>(3) formulate a viable research agenda within the scholarly study of culture.</li> </ol>		
Methods of assessment & grading structure	A written assignment not to exceed 10,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of a course.		

2.11 Specialization Option: History			# 3850
Study Area	Major		
Type of Module	Compulsory Elective for Culture and History Majors Elective for other Majors		
Frequency Taught	At least once per year	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar (3 ECTS) and Work Group (3 ECTS)		
Module Coordinator	Dr. Ryan Plumley		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introduction to Culture and History (waived at instructor's discretion)		
Module content & objectives	<p>In this module, students deepen their knowledge and training in the humanities through research-oriented study of human history. Research orientation can mean either focused investigation into a particular field of scholarly research or independent research undertaken at an undergraduate level.</p> <p>The module can be fulfilled in three ways:</p> <ol style="list-style-type: none"> <li>(1) Some courses offered as one of the other Compulsory Electives within the Culture and History Major will simultaneously be offered at a more advanced level and with a research-orientation.</li> <li>(2) Sometimes advanced courses will be offered specifically for this module.</li> <li>(3) Students may also undertake a Supervised Independent Study, as per §6.9 and §6.12 of the StuPO. Guidelines and application procedure are available from LAS instructional staff.</li> </ol> <p>The module is offered in varying forms with varying topics. For specific details about the content, about the theoretical/methodological emphasis, and about the teaching/learning format consult the course catalogue and instructor in the relevant Block.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) demonstrate critical engagement with a specific body of humanistic scholarship relevant to the study of history.</li> <li>(2) evaluate the possibilities and limits of specific humanistic theories and methods in approaching a specific past.</li> <li>(3) formulate a viable research agenda within the scholarly study of the past.</li> </ol>		
Methods of assessment & grading structure	A written assignment not to exceed 10,000 words AND/OR a written examination not to exceed 90 minutes. Specific details will be announced on the first day of a course.		

### 3 Modules of the Major Governance

3.1 Introduction to Governance			# 4100
Study Area	Governance		
Type of Module	Compulsory for Governance Major Compulsory Elective for other Majors		
Frequency Taught	Once a year, block 3	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This module acquaints students with central topics in the study of how human communities govern themselves, gives them the appropriate vocabulary and prepares them to understand which ways of presentation, explanation and argumentation are judged acceptable by governance scholars' community.</p> <p>The Workgroups then explore these topics and skills based on additional material (video, images, games, texts) discussed in pairs and small groups. This work is supervised and framed, but is student-led and student-oriented. In addition to the specific intellectual skills addressed each week, it also develops students' ability to formulate and present their standpoint, their sensitivity to alternative points of view, their discussion skills.</p> <p>Weekly lectures cover the following topics: social contract theory; collective action; democracy, old and new; relationship between politics and administration; agenda setting; forecasts: politics of the future.</p> <p>Weekly workgroups focus on the following skills: makings sense of visuals (images, graphs, models); political imagery; working with definitions; humour in and about politics; negotiation and debate; evaluation and assessment.</p>		
Learning Goals	<p>Upon successful completion of this module, students ...</p> <ol style="list-style-type: none"> <li>(1) become acquainted with central topics in the study of governance;</li> <li>(2) understand and are able to use key concepts in the study of governance;</li> <li>(3) acquire intellectual skills useful in further studies and carrier;</li> <li>(4) get experience in rigorous and creative exploration of complicated issues, in group and autonomously.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance of classes and active participation in group work and exercises.</p> <p>3 ECTS: Multiple-choice tests, short written assignments and written exam.</p>		

3.2 Theoretical Foundations and Hermeneutical Methods			# 4150
Study Area	Governance		
Type of Module	Compulsory for Governance Major Elective for other Majors		
Frequency Taught	Once a year, block 1	Year	2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	<p>This module offers the necessary theoretical and conceptual foundations for social science studies. Students learn the fundamental conceptual frameworks, used in the study of communities, states and markets, and get a sense of how to navigate complex theoretical landscapes; get acquainted with the classic authors as well as more recent developments in the ontological, epistemological, and methodological dimensions of academic inquiry in social and political sciences.</p> <p>The module provides students with the generally accepted vocabulary, informs them on useful heuristics and conceptual tools available to the scholars analysing the structure and workings of communities, states and markets, as well as instructs them on the formal logic and rigorous argumentation procedures.</p> <p>The course is organized in accordance with a student-oriented teaching approach and is structured around discussing and “solving” complex philosophical, ethical, and political questions, such as those about freedom, equality, discrimination, and representation. While some material is presented in form of lectures, there is enough space for students to actively engage with the material and to practice in the use of vocabulary and reasoning techniques they learn from readings.</p>		
Learning Goals	<p>Upon successful completion of this module, students...</p> <ol style="list-style-type: none"> <li>(1) are able to analytically engage with complex theoretical material on social and political systems and activities;</li> <li>(2) become knowledgeable in the use of vocabulary and analytical apparatus accepted among the scholars of communities, states, and markets;</li> <li>(3) connect material from other modules into a conceptual understanding of socio-political sphere, distinguishing between ontology, epistemology and methodology of academic and practice-oriented inquiry.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Written assignments.</p>		

3.3 Qualitative and Quantitative Methods			# 4200
Study Area	Governance		
Type of Module	Compulsory for Governance Major Elective for other Majors		
Frequency Taught		Year	2–4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	<p>This module focuses on the methodological dimension of socio-political inquiry and introduces students into the details of a (set of) particular method(s). The module can be realized in a variety of ways, focusing on qualitative and/or quantitative methods. Refer to the course catalogue and the instructor of the module for detailed information.</p> <p>For courses on qualitative methods, students receive a theoretical basis and practical skills in one of the following methods: qualitative text analysis or discourse analysis, qualitative case studies, case and area studies, interviewing, socio-historical inquiry, ethnography of political and social life, research in political communication, or another established type of qualitative analysis. For courses on quantitative methods, statistics in the sphere of economics, politics and sociology can be focused upon, as well as econometrics, survey methodology, quantitative content analysis, or multi-case comparative studies.</p> <p>The module covers issues of methods' applicability to particular research and practical purposes, discusses the relevant issues in the design of methodological studies and applications, as well as data collection processes.</p> <p>The Workgroup offers space for students to have a hands-on experience of the method(s) discussed in the module, and thus provides students with practical understanding of the method's strengths and weaknesses as well as theoretical and practical challenges of its use.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) know the area of applicability, strengths and weaknesses of the method(s) considered in the module;</li> <li>(2) understand and discuss applications of the method(s) in research and application literature;</li> <li>(3) apply the method(s) to the relevant areas of socio-political inquiry.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Oral or written exam.</p>		

<b>3.4 Law</b>			<b># 4500</b>
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Once a year, block 4	Year	23
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	<p>This module focuses on the legal regulation of communal, national and economic life. It introduces students to a particular area of legal inquiry and is organized as an introductory course into the foundations of law and legislation.</p> <p>This module acquaints students with the concepts and reasoning applicable by researchers and practitioners of a specific area of law. Students get a contextualized understanding of legal procedures and activities, of the place and functions of law, legislation and normative processes within complex, multi-layer and multi-goal communities, states and markets.</p> <p>The Workgroup offers space for the discussion of course material as well as applications of the material to case studies/exercises designed by the instructor.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) analytically engage with complex theoretical material on law and legislation processes;</li> <li>(2) become knowledgeable in the use of vocabulary and analytical apparatus accepted among the scholars of law and legislation;</li> <li>(3) connect knowledge acquired in this module with material from other modules into a conceptual understanding of socio-political and economic context and implications of law and legal processes.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Written assignments; written exam.</p>		

3.5 Economics		# 4550	
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Once a year, block 3	Year	23
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	<p>This module focuses on the understanding and analysis of economic life. It introduces students to a particular area of the study of the market and is organized as an introductory course into the foundations of macro- and microeconomics.</p> <p>It offers to students an insight into the theoretical foundations of the study of the market, its views on human nature and motivation, cyclical processes of historical development, relationship between micro-, meso- and macro-levels, organization of social structures and processes, and global trends.</p> <p>The Workgroup offers space for the discussion of course material as well as application of the material to case studies/exercises designed by the instructor. It can encompass a section on methodology, useful for an in-depth study of the chosen area of analysis.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) understand the principles of organization, processes, and, when applicable, theories and analytical frameworks within the area of market studies covered in the module;</li> <li>(2) understand and discuss specialized texts in the area covered in the module;</li> <li>(3) apply acquired knowledge to historical and current cases of market structures and processes.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Written assignments; written exam.</p>		

3.6 Comparative Government		# 4600	
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Once a year, block 2	Year	23
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	<p>This module focuses on the political decision-making and regulation of communal, national and economic life. It covers national, international, and communal/group level of analysis. The focus on the comparative dimension enlarges the conceptual horizon of the module and puts an additional emphasis on epistemology and methods.</p> <p>The module introduces students to a particular area of political institutions, decision-making and regulation activities and is organized as an introductory course into the foundations to politics and regulation.</p> <p>This module aims at increasing students' motivation and ability to understand the development, functioning and transformation of political institutions in specific historico-cultural contexts. It gives them the necessary theoretical and conceptual basis to make sense of the dimension of social life centred on power and regulation.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) understand theories, analytical frameworks, institutions and processes within the area of governance covered in the module (political science and comparative government research);</li> <li>(2) analytically engage with academic and policy-oriented texts in the area covered in the module;</li> <li>(3) apply acquired knowledge to historical and current cases of political regulation of communities, states and markets.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Written assignments; written exam.</p>		

<b>3.7 Advanced Governance I</b>			<b># 4650</b>
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Yearly, blocks depend on the yearly planning	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	In this module, students can choose among courses offered within the modules Law, Economics, or Comparative Government. It is necessary to refer to the course catalogue and the instructor of the module to get the detailed information on the design of the course.		
Learning Goals	Learning goals depend on the course chosen		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

<b>3.8 Advanced Governance II</b>			<b># 4700</b>
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Yearly, blocks depend on the yearly planning	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance		
Module content & objectives	In this module, students can choose among courses offered within the modules Law, Economics, or Comparative Government. It is necessary to refer to the course catalogue and the instructor of the module to get the detailed information on the design of the course.		
Learning Goals	Learning goals depend on the course chosen		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

3.9 Advanced Governance III			# 4750
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught		Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	By default, successful completion of the module Introduction to Governance. Additional requirements may be imposed by the instructor of the course.		
Module content & objectives	<p>In this module, students can choose among courses offered within the modules Law, Economics, or Comparative Government.</p> <p>Alternatively, students can choose a course of their own selection from the areas of political or business ethics.</p> <p>This module is intended as an occasion for the students to engage in a small-scale research project and acquaint themselves with the procedures, steps, challenges and efficient ways to carry out such a project on their own. It is therefore necessary that the course taken for this module allows students to realize these goals.</p> <p>It is necessary to refer to the course catalogue and the instructor of the module to get the detailed information on its exact realization.</p>		
Learning Goals	<p>In this module, the students should receive the basic skills of carrying out a small-scale research project (case study, analytic literature review, analytic paper, or the like).</p> <p>Other learning goals depend on the course chosen</p>		
Methods of assessment & grading structure	<p>Written assessment including a research paper.</p> <p>The details of the type of assessment and requirements depend on the course chosen.</p>		

3.10 Specialization Option: Politics, Law, and Administration			# 4800
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Yearly, blocks depend on the yearly planning	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module Introduction to Governance. Additional requirements may be imposed by the instructor of the course.		
Module content & objectives	<p>This Specialization Option module offers an opportunity for students to study a particular topic within the widely defined area of political, legal and administrative inquiry in considerable depth. This module is more focused than other compulsory electives within the major.</p> <p>The Workgroup offers intellectual space for an active dialogue between students, instructors and (when applicable) invited experts/researchers. This module is therefore better suited for advanced students, normally, from their fifth semester of studies. This is because this type of interaction will be most efficient when students already possess knowledge of the basic vocabulary, theories and conceptual frameworks to actively engage with the advanced material and the demanding format of the module.</p> <p>Refer to the course catalogue and the instructor of the module for detailed information on the design of the course.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) apply knowledge acquired through intensive training in specific research topic and/or method within the corresponding area of political, legal or administrative inquiry;</li> <li>(2) thoroughly understand the use of conceptual frameworks and methods within the area covered in the context of their real application;</li> <li>(3) actively engage with the variety of theoretical and methodological approaches to the study of the topic covered in the module.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Oral or written exam.</p>		

3.11 Specialization Option: Economics		# 4850	
Study Area	Governance		
Type of Module	Compulsory Elective for Governance Major Elective for other Majors		
Frequency Taught	Yearly, blocks depend on the yearly planning	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Liudmila Mikalayeva		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module Introduction to Governance. Additional requirements may be imposed by the instructor of the course.		
Module content & objectives	<p>This Specialization Option module offers an opportunity for students to study a particular topic within the widely defined area of economics in considerable depth. This module is more focused than other compulsory electives within the major. The Workgroup offers intellectual space for an active dialogue between students, instructors and (when applicable) invited experts/researchers. This module is therefore better suited for advanced students, normally, from their fifth semester of studies. This is because this type of interaction will be most efficient when students already possess knowledge of the basic vocabulary, theories and conceptual frameworks to actively engage with the advanced material and the demanding format of the module.</p> <p>Refer to the course catalogue and the instructor of the module for detailed information on the design of the course.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) Apply knowledge acquired through intensive training in specific research topic and/or method within the corresponding area of economics;</li> <li>(2) thoroughly understand the use of conceptual frameworks and methods within the area covered in the context of their real application;</li> <li>(3) actively engage with the variety of theoretical and methodological approaches to the study of the topic covered in the module.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: Regular attendance, active participation in the module, group work and satisfactory completion of all obligatory exercises.</p> <p>3 ECTS: Oral or written exam.</p>		

## 4 Modules of the Major Life Sciences

4.1 Introductory Module: Thought and Research in the Life Sciences			# 5100
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Compulsory Elective for other Majors		
Frequency Taught	Twice a year	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): Introduction to Life Sciences		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>In this module, students will learn about basic concepts in the Life Sciences. In particular, the course will focus on the biological and cognitive systems that sustain a human being and allow him or her to interact with a complex environment. The human being is approached from the outside to the inside, starting at the behavioural level, continuing with physiological systems that allow the realization of behaviour and vegetative functions, leading to the composition and functioning of cells.</p> <p>Besides the structures and processes that make up these systems, students will learn about the Scientific Method as the predominant way of knowledge acquisition in the Life Sciences. In Work Groups, students will research, present and discuss challenges from the fields of Cell Biology, Physiology, Neurobiology and Cognitive Psychology.</p> <p>Lab visits to different kinds of lab, in which students will experience the work in scientific laboratories, will round off the course.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) have basic knowledge about biological and cognitive systems of the human body and the ways they allow human beings to interact with the environment</li> <li>(2) have advanced knowledge in one challenge from the Life Sciences</li> <li>(3) present a topic according to basic scientific standards</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the module and its associated activities, satisfactory completion of all required assignments as announced in class.</p> <p>3 ECTS: a formal written exam (45 min, 50 %) AND a term paper (50 %).</p>		

4.2 Mathematics and Physics for the Liberal Arts and Sciences			# 5150
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Compulsory for Earth and Environmental Sciences Major (Mod. Nr. 6150) Elective for Governance Major and Culture and History Major		
Frequency Taught	Once a year	Year	2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English?
Course Format	Lecture and workgroup Maths & Physics		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This module introduces basic concepts of mathematics and physics, the former in the context to the latter. While emphasis is laid on the application of the corresponding physical description to practical problems, the respective theoretical background is also be clarified whenever suitable, as well as possible connections to other concepts or their embedment into the framework of a more general theory (e.g. the relation between simple dynamics and Newtonian dynamics).</p> <p>Accordingly, most mathematical concepts are taught with their application to physics in mind (e. g. properties of functions, derivatives, integrals, and geometrical vectors), to subsequently allow a quantitative analysis of simple physical problems (e.g. the interplay of forces or dynamics in gravitational field), with a few short outlooks into other fields of physics.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) master basic concepts of analysis and linear algebra, Newtonian physics</li> <li>(2) identify appropriate physical and mathematical approaches to treat given problems, and solve the latter accordingly in a quantitative way.</li> <li>(3) recognise abstract concepts behind a given problem to find similarities to already known situations.</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the lectures and workgroups and satisfactory participation in class activities.</p> <p>Graded Assignment (3 ECTS): Proctored exam (90 min) as announced at the beginning of the course.</p>		

4.3 Biochemistry		# 5250	
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Elective for other Majors		
Frequency Taught	Once a year	Year	2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English?
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS): Biochemistry		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>This module provides the students with the knowledge about biochemical reactions and signalling pathways relevant to understand intra- and inter-cellular processes. This may include, but is not limited to, signal transduction (cellular receptors and signalling chains), metabolic processes (e.g. ATP synthase through the citric acid cycle), protein biosynthesis, and molecular genetics. For this, it will introduce the four major classes of molecules that are involved in the chemistry of a living cell, namely carbohydrates, lipids, amino acids and their polymers, proteins, as well as nucleic acids and their polymers, DNA and RNA.</p> <p>The module puts particular emphasis on molecular reactions playing a role in cellular functions and physiological processes and points out how pathways on different levels of consideration (molecular, cellular, supra-cellular, systemic) interact and rely on each other.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) know about the basic chemical pathways that run a cell;</li> <li>(2) know about the basic molecules involved in biochemical reactions and understand what role these molecules play in different cellular functions</li> <li>(3) are able to describe the role of intracellular reactions in relation to cellular activities and physiological processes</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the module and its associated activities, satisfactory completion of all required assignments as announced in class.</p> <p>3 ECTS: oral or written exam.</p>		

4.4 Cell Biology		# 5350	
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Elective for other Majors		
Frequency Taught	Once a year	Year	2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English?
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS) Cell Biology		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	None		
Module content & objectives	<p>The module introduces the structure and functions of the different components of eukaryotic cells. This includes the structure and function of different cell organelles and analyses of cellular processes as well as their regulation. Topics may include, but are not limited to, cell formation, motility, and division, cell-to-cell interaction, endocytosis, exocytosis, intracellular trans- port, protein sorting, trafficking, and targeting, and gene expression.</p> <p>The module puts emphasis on how cellular processes mediate processes occurring on the chemical level on the one hand and the physiological level on the other hand and shows how processes on the different levels are closely related.</p> <p>Additional laboratory exercises will provide the students with initial practical experiences in the lab. Using common methods (such as microscopy) students will study structural aspects of the cell.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) understand the structure and molecular function of living cells</li> <li>(2) understand and be able to discuss specialized texts in the areas covered by the module</li> <li>(3) be able to apply knowledge acquired to historical and current cases of legal regulation of communities, states and markets.</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the module and its associated activities, satisfactory completion of all required assignments as announced in class.</p> <p>3 ECTS: oral or written exam.</p>		

4.5 Physiology		# 5300	
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Elective for other Majors		
Frequency Taught	Once a year	Year	2-3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module Cell Biology		
Module content & objectives	<p>The module introduces physiological concepts of body systems including their structure and functions in the context of maintaining homeostasis. Topics may include, but are not limited to, the immune system, the respiratory system, the circulatory system, the urinary system, the nervous system, the endocrine system, and the muscular system. At least one of these systems will be covered in-depth. Particular emphasis will be put on the regulation of these systems and their interaction with other systems as well as their adaption to changes in the environment. Mechanisms of regulation will be discussed on different levels (molecular, cellular, systems level).</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) differentiate between and describe different physiological systems</li> <li>(2) explain one physiological system in-depth</li> <li>(3) understand how different systems interact</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the module and its associated activities, satisfactory completion of all required assignments as announced in class.</p> <p>3 ECTS: oral or written exam.</p>		

4.6 Laboratory Work for the Life Sciences			# 5200
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major		
Frequency Taught	-	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Laboratory Course or Internship		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the modules Cell Biology, Biochemistry, and Physiology		
Module content & objectives	<p>In this module students do practical work in a scientific laboratory in one of the disciplines of the Life Sciences. It covers basic procedures carried out in the respective laboratory. This includes, for example, lab safety, general basic lab skills, handling of specific instruments, machines and routines, and typical experimental set-ups. The course focusses on practical skills while at the same time allowing students to carry out small projects.</p> <p>Optionally, students who wish to develop a specific research focus can cover the module by doing in an internship in a recognized research facility. In this case students select and apply for a lab in agreement with the course coordinator. Additional restrictions and guidelines apply.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to</p> <ol style="list-style-type: none"> <li>(1) behave in a laboratory space safely</li> <li>(2) carry out basic procedures typical for the lab of their choice</li> <li>(3) describe the working procedures carried out in the lab in the context of project they worked on</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the lab work, satisfactory completion of all required assignments by the lab supervisor.</p> <p>3 ECTS: lab report/project report</p>		

4.7 Computer Science, Data Processing, and Modelling in the Life Sciences			# 5410
Study Area	Life Sciences		
Type of Module	Compulsory for Life Sciences Major Elective for other Majors		
Frequency Taught	Once a year	Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1 lecture/seminar (3 ECTS), 1 workgroup (3 ECTS)		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module “Mathematics and Physics for the Liberal Arts and Sciences”		
Module content & objectives	<p>The module introduces students to computational modelling in the Life Sciences. It covers the multiple uses of scientific models as visualizations, research tools, and research objects and discusses their epistemological role for knowledge production in the sciences. Advantages and disadvantages of the use of models for research will be discussed with an emphasis on the relation between the model and the modelled.</p> <p>The module includes a practical part in which students acquire basic programming skills that are required to create simple computational models. Students learn how structures and processes of real-life systems from the Life Sciences can be represented in a software environment and how the resulting models can be used to simulate processes and make predictions.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) know of different types of models that are used in the Life Sciences</li> <li>(2) are able to explain the epistemological status of scientific models</li> <li>(3) are able to create simple computational models</li> </ol>		
Methods of assessment & grading structure	<p>3 ECTS: satisfactory participation in the module and its associated activities, satisfactory completion of all required assignments as announced in class.</p> <p>3 ECTS: written exam or project</p>		

4.8 Advanced Life Sciences I		# 5500	
Study Area	Life Sciences		
Type of Module	Compulsory Elective for Life Sciences Major Elective for other Majors		
Frequency Taught		Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	variable		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module "Introduction to Life Sciences." Additional prerequisites may apply depending on the course chosen.		
Module content & objectives	In this module, students can choose among courses offered within the fields cognitive and neuro-sciences, genetics, biological anthropology, biotechnology, electrical engineering for biological and medical purposes, physiology, and cell biology. Refer to the course catalogue and the instructor of the module to get the detailed information on the design of the course.		
Learning Goals	Learning goals depend on the course chosen		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

4.9 Advanced Life Sciences II			# 5550
Study Area	Life Sciences		
Type of Module	Compulsory Elective for Life Sciences Major Elective for other Majors		
Frequency Taught		Year	2-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	variable		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the module "Introduction to Life Sciences." Additional prerequisites may apply depending on the course chosen.		
Module content & objectives	<p>In this module, students can choose among courses offered within the fields of cognitive and neuro-sciences, genetics, biological anthropology, biotechnology, electrical engineering for biological and medical purposes, physiology, and cell biology.</p> <p>Refer to the course catalogue and the instructor of the module to get the detailed information on the design of the course.</p>		
Learning Goals	Learning goals depend on the course chosen		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

4.10 Specialization Option: Life Sciences I			# 5600
Study Area	Life Sciences		
Type of Module	Compulsory Elective for Life Sciences Major Elective for other Majors		
Frequency Taught		Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	variable		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the modules Cell Biology, Biochemistry, Physiology, and Laboratory Work for the Life Sciences. Additional prerequisites may apply.		
Module content & objectives	<p>This module allows students to choose a course on an advanced topic they intend to specialize in. They can choose among courses offered within the fields of cognitive and neuro-sciences, genetics, biological anthropology, biotechnology, electrical engineering for biological and medical purposes, physiology, and cell biology.</p> <p>The module puts special emphasis on research and covers a focussed topic in its full range. Theoretical and methodological aspects will be discussed in-depth in order to provide students with a thorough background in the topic.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) have received intensive training in the specific research topic and/or method</li> <li>(2) thoroughly understand the concepts and methods within the area covered</li> <li>(3) actively engage with the variety of theoretical and methodological approaches to the study of the topic covered in the module.</li> </ol>		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

4.11 Specialization Option: Life Sciences II			# 5650
Study Area	Life Sciences		
Type of Module	Compulsory Elective for Life Sciences Major Elective for other Majors		
Frequency Taught		Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	variable		
Module Coordinator	Dr. Simon J. Büchner		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Successful completion of the modules Cell Biology, Biochemistry, Physiology, and Laboratory Work for the Life Sciences. Additional prerequisites may apply.		
Module content & objectives	<p>This module allows students to choose a course on an advanced topic they intend to specialize in. They can choose among courses offered within the fields of cognitive and neuro-sciences, genetics, biological anthropology, biotechnology, electrical engineering for biological and medical purposes, physiology, and cell biology.</p> <p>The module puts special emphasis on research and covers a focussed topic in its full range. Theoretical and methodological aspects will be discussed in-depth in order to provide students with a thorough background in the topic.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) have received intensive training in the specific research topic and/or method</li> <li>(2) thoroughly understand the concepts and methods within the area covered</li> <li>(3) actively engage with the variety of theoretical and methodological approaches to the study of the topic covered in the module.</li> </ol>		
Methods of assessment & grading structure	The type of assessment and requirements depend on the course chosen		

## 5 Modules of the Major Earth and Environmental Sciences

<b>5.1 Introductory Module: Thought and Research in the Earth and Environmental Sciences</b>			<b># 6100</b>
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Compulsory Elective for other Majors		
Frequency Taught	Yearly	Year	1
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture with practical classes and workgroup		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Exploring Complex Problems Sharing Knowledge Numerical Literacy (or permission by the instructor)		
Module content & objectives	<p>In this module, students acquire basic knowledge of the interacting components of our Earth system. These components include our physical environment (e.g. structure and function of the atmosphere), our living environment (e.g. structure and function of ecosystems), as well as the interaction between the two. In addition, students engage with scientific work related to a contemporary environmental issue that is strongly linked to both the physical and living environment (e.g. climate change). Furthermore, students familiarise themselves with basic research methods that are used in the field of environmental sciences.</p> <p>Students learn about components of the Earth system during lectures and practice research methods during practical classes. During the workgroups, students engage with scientific work that is related to a contemporary environmental challenge.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) recall basic structures and functions of different components of the Earth system and their interaction with each other.</li> <li>(2) explain links between these components and past and contemporary environmental challenges.</li> <li>(3) perform basic scientific work/experiments.</li> <li>(4) present a topic according to basic scientific standards (orally and in written form).</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the workgroups and practical classes and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate).</p> <p>Graded Assignment (3 ECTS): The final examination for this module consists of two parts (both contributing 50 % to the final grade), a proctored exam (45 min) and a written paper as announced at the beginning of the course.</p>		

5.2 Mathematics and Physics for the Liberal Arts and Sciences			# 6150
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Compulsory for Life Sciences Major (Module Nr. 5150) Elective for Governance Major and Culture and History Major		
Frequency Taught	Yearly	Year	2
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture and workgroup		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Recommended: Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences		
Module content & objectives	<p>This module introduces basic concepts of mathematics and physics, the former in the context of the latter. While emphasis is laid on the application of the physical description to practical problems, the respective theoretical background is also clarified whenever suitable, as well as possible connections to other concepts or their embedment within the framework of more general theories (e.g. the relation between simple dynamics and Newtonian dynamics). Accordingly, most mathematical concepts are taught with their application to physics in mind (e. g. properties of functions, derivatives, integrals, and geometrical vectors), to subsequently allow quantitative analysis of simple physical problems (e.g. the interplay of forces or dynamics in gravitational field), with some brief exploration into other fields of physics.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) master basic concepts of analysis and linear algebra, and Newtonian physics</li> <li>(2) identify appropriate physical and mathematical approaches to treat given problems, and solve the them accordingly in a quantitative way.</li> <li>(3) recognise abstract concepts behind a given problem to find similarities to already known situations.</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the lectures and workgroups and satisfactory participation in class activities.</p> <p>Graded Assignment (3 ECTS): proctored exam (90 min) or an oral exam interview (15 to 20 min per candidate) as announced at the beginning of the course.</p>		

5.3 Methods of Observing Nature			# 6200
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Every other year	Year	2-3
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	1–2 weeks full-time (+ preparation)		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor) Recommended: Earth Sciences, Ecology		
Module content & objectives	In this module, students explore natural phenomena through direct field and/or laboratory experience. Students gain hands-on experience with methods used to study our environment. Individual field trips and/or laboratory classes are accompanied by a seminar that focuses on particular natural processes (e.g. rock formation) or environmental problems (e.g. soil erosion), which are addressed in an interdisciplinary way. Thereby, students integrate their observations with acquired knowledge of Earth sciences, chemistry and/or ecology and discuss the interaction between observed natural processes and humans.		
Learning Goals	Upon successful completion of this module, students are able to... (1) describe and report observations of natural processes according to scientific standards. (2) link their theoretical knowledge of Earth Sciences, chemistry and ecology to observations of natural processes or problems in the field or laboratory. (3) explain links between particular natural processes and human actions.		
Methods of assessment & grading structure	Pass/Fail Assignment (3 ECTS): Regular attendance during the practical/excursion and the seminar and satisfactory participation in class activities. Graded Assignment (3 ECTS): An oral presentation on a given topic (15 to 30 min per candidate) and/or a written paper as announced at the beginning of the course.		

5.4 Chemistry		# 6250	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	2
Duration	4–7 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture and tutorial		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor)		
Module content & objectives	<p>In this module students are introduced to the Central Science Chemistry. Students study the main building blocks of our material world composed of atoms, ions and molecules. They investigate fundamental chemical reactions and electron-transfer reactions (redox chemistry). In addition, they are introduced to basic thermodynamic and kinetic principles driving chemical reactions. Finally, they explore the essential elements of life on Earth and their biogeochemical cycles, and they will take a closer look at the chemistry of several important biological processes.</p> <p>These topics are introduced during the lectures. In the tutorials selected topics will be presented by the students and discussed in depth.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) describe the basic electronic and structural features of molecules.</li> <li>(2) set up and complete chemical equations.</li> <li>(3) understand elementary thermodynamic (heat) and kinetic (velocity) aspects of chemical reactions.</li> <li>(4) apply the principles of structure and reactivity to essential life processes in the presence and absence of dioxygen.</li> <li>(5) present/discuss a selected topic and write a paper (short publication).</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the lectures and tutorials and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate).</p> <p>Graded Assignment (3 ECTS): The final examination for this module consists of two parts (both contributing 50 % to the final grade), a proctored exam (45 min) and a written paper as announced at the beginning of the course.</p>		

5.5 Earth Sciences		# 6300	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	2
Duration	7 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture with practical/excursion and seminar		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor)		
Module content & objectives	<p>In this module, students explore fundamental principles of endogenous and exogenous geology to gain basic understanding of the form and functioning of our planet. Regarding endogenous geology, students learn about the Earth's interior structure and internal processes. These processes include the formation of rocks, in particular igneous rocks and metamorphic rocks, and deformation (plate tectonics). With respect to exogenous geology, students learn about processes and forces near the Earth's surface, such as the physical and chemical weathering of rocks, transport of materials (through wind, water and ice) and deposition of materials in different environments (glaciers, lakes, sea) as sedimentary rocks. In addition, an emphasis is placed on the link between both exogenous and endogenous principles and contemporary environmental challenges (e.g. earth quakes, reservoirs of resources). Students learn about endogenous and exogenous geology during lectures and study their appearance during practical classes and excursions. During the seminar, students link their acquired knowledge to current environmental challenges.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) describe and understand basic principles of endogenous geology (the Earth's interior structures and processes), exogenous geology (processes and forces near the Earth's surface) and fundamental methods to study these principles.</li> <li>(2) apply their acquired theoretical knowledge to identify the appearance of geological processes in nature (e.g. metamorphic grade of rocks, plate boundaries, chemical and physical weathering)</li> <li>(3) examine links between basic principles of endogenous and exogenous geology and contemporary environmental challenges (e.g. earth quakes, reservoirs of resources)</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the lectures and tutorials and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate).</p> <p>Graded Assignment (3 ECTS): The final examination for this module consists of two parts (both contributing 50 % to the final grade), a proctored exam (45 min) AND a written paper.</p>		

5.6 Ecology		# 6350	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	2
Duration	7 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture with practical/excursion and seminar		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences		
Module content & objectives	<p>This module introduces fundamental ecological theories and concepts, and research approaches used by ecologists to study the environment. Students learn about principles that control and regulate populations, communities and ecosystems, and methods to study these principles. In addition, the implication of these principles for nature conservation, resource use and the study of human impact on the environment are addressed.</p> <p>Students acquire fundamental knowledge about ecological concepts, theories and research approaches during the lecture; they practice ecological research methods during practical classes/excursions and discuss ecological research and its implication during the seminar.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) recall basic ecological theories and concepts (ecological principles that control and regulate populations, communities and ecosystems)</li> <li>(2) explain patterns in nature by applying these principles.</li> <li>(3) discuss implications of these principles for nature conservation, resource use and/or the study of human impact on the environment.</li> <li>(4) perform basic ecological research and report its outcome in formal scientific style (orally or written).</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the classes and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate).</p> <p>Graded Assignment (3 ECTS): The final examination for this module consists of a single proctored exam (90 min) or of two parts (both contributing 50 % to the final grade), a proctored exam (45 min) and a written paper as announced at the beginning of the course.</p>		

5.7 Global Cycles of Matter and Materials			# 6500
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture and Seminar		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor)		
Module content & objectives	<p>In this module students explore the cycling of matter and materials on a global scale. Students select an advanced course that engages thoroughly with the cycling of a specific element (e.g. carbon, nitrogen), a specific molecule (e.g. water) or a certain natural or human-made material (e.g. sand, metal, plastic). Students learn about processes and mechanisms that govern the cycling of the studied matter/material, about its flow and flux patterns, about its various forms as it goes through the different phases of the cycle, and about important reservoirs and residence times. Students also explore interactions with other cycles.</p> <p>In addition, students examine the linkage between the cycle and humans (i.e. the influence of the cycle on humans and the influence of humans on the cycle), and discuss environmental management strategies.</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) describe a specific cycles of matter or material in detail.</li> <li>(2) understand and discuss specialized texts and research methods in the area covered in the module.</li> <li>(3) apply acquired knowledge and research skills to the study of other global cycles of matter or material.</li> </ol>		
Methods of assessment & grading structure	<p>Pass/Fail Assignment (3 ECTS): Regular attendance during the classes and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate).</p> <p>Graded Assignment (3 ECTS): A written paper on a given topic or a proctored written examination (90 min) as announced at the beginning of the course.</p>		

5.8 Environment and Health		# 6550	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory Elective for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture and Seminar		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the Instructor) Recommended: Introductory Module: Thought and Research in the Area of Life Sciences		
Module content & objectives	In this module students explore the complex relationship between the environment and human health. Students select an advanced course that deeply engages with the physical, chemical and biological properties of specific environmental hazards, their causes, their mechanisms of release into the environment, major environmental pathways and fates, and their effect on human health. In addition, students develop basic skills in environmental risk assessment and management strategies. Amongst others, individual courses may cover the following areas of study that are linked to human health: freshwater contamination, air pollution, waste management, natural disasters.		
Learning Goals	Upon successful completion of this module, students are able to... (1) describe specific environmental hazards and their relationship to human health in detail. (2) understand and discuss specialized texts and research methods in the area covered in the module. (3) apply acquired knowledge and research skills to other topics about environmental hazards and their relationship to human health.		
Methods of assessment & grading structure	Pass/Fail Assignment (3 ECTS): Regular attendance during the classes and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate). Graded Assignment (3 ECTS): A written paper on a given topic or a proctored written examination (90 min) as announced at the beginning of the course.		

5.9 Evolution and Dynamics of the Planetary System			# 6600
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory Elective for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Lecture and Seminar		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor) Recommended: Earth Sciences		
Module content & objectives	In this module students explore the evolution and dynamics of the planetary system in order to gain better understanding of the present state of the Earth. Students select an advanced course that examines one of the following areas in depth: the evolution and dynamics of the solar system, of the Earth (e.g. formation of a layered planet) or of a specific Earth system (e.g. plate tectonic system). In addition, students explore and discuss research methods that are used to study the respective topic.		
Learning Goals	Upon successful completion of this module, students are able to... (1) describe the evolution and dynamics of the system covered in the module in depth. (2) understand and discuss specialized texts and research methods in the area covered in the module. (3) apply acquired knowledge and research skills to other topics related to the evolution and dynamics of the planetary system.		
Methods of assessment & grading structure	Pass/Fail Assignment (3 ECTS): Regular attendance during the classes and satisfactory participation in class activities, including an oral presentation on a given topic (15 to 30 min per candidate). Graded Assignment (3 ECTS): A written paper on a given topic or a proctored written examination (90 min) as announced at the beginning of the course.		

5.10 Specialization Option: Earth and Environmental Sciences I		# 6650	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory Elective for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar and/or Practical		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor)		
Module content & objectives	<p>This module allows students to select a course on an advanced topic or research method they intend to specialize in. Students can choose from specialization courses offered in the fields of ecology, Earth sciences, chemistry and physics and interdisciplinary courses that are related to these fields of study.</p> <p>The module puts special emphasis on research and/or research methods and covers a focussed topic and/or method in its full range. Relevant theory is discussed in depth in order to provide students with a thorough background on the topic. Research methods are trained intensively in order to advance practical research skills.</p> <p>With prior approval of the Board of Examiners, this module can be replaced by supervised independent science research (see guidelines for independent projects).</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) thoroughly understand the concepts and methods relevant to the research area covered in the module.</li> <li>(2) apply the acquired concepts and methods to the study of other topics related to the research area covered in the module.</li> <li>(3) evaluate research in the area covered in the module.</li> </ol>		
Methods of assessment & grading structure	As announced at the beginning of the course.		

5.11 Specialization Option: Earth and Environmental Sciences II		# 6700	
Study Area	Earth and Environmental Sciences		
Type of Module	Compulsory Elective for Earth and Environmental Sciences Major Elective for other Majors		
Frequency Taught	Yearly – every other year	Year	3-4
Duration	8 weeks	Credit Points	6 ECTS
Workload	180 h (of which 40 h attendance)	Language	English
Course Format	Seminar and/or Practical		
Module Coordinator	Sabine Sané		
Convener	Prof. Dr. W. Freitag		
Prerequisites	Introductory Module: Thought and Research in the Area of Earth and Environmental Sciences (or permission by the instructor)		
Module content & objectives	<p>This module allows students to select a course on an advanced topic or research method they intend to specialize in. Students can choose from specialization courses offered in the fields of ecology, Earth sciences, chemistry and physics and interdisciplinary courses that are related to these fields of study.</p> <p>The module puts special emphasis on research and/or research methods and covers a focussed topic and/or method in its full range. Relevant theory is discussed in depth in order to provide students with a thorough background on the topic. Research methods are trained intensively in order to advance practical research skills.</p> <p>With prior approval of the Board of Examiners, this module can be replaced by supervised independent science research (see guidelines for independent projects).</p>		
Learning Goals	<p>Upon successful completion of this module, students are able to...</p> <ol style="list-style-type: none"> <li>(1) thoroughly understand the concepts and methods relevant to the research area covered in the module.</li> <li>(2) apply the acquired concepts and methods to the study of other topics related to the research area covered in the module.</li> <li>(3) evaluate research in the area covered in the module.</li> </ol>		
Methods of assessment & grading structure	As announced at the beginning of the course.		

## 6 Electives

<b>6.1 Elective</b>		<b># 7250</b>
Study Area	Electives	
Type of Module	Compulsory Elective	
Module content & objectives	<p>Students must earn a total of 48 ECTS credits by taking elective courses (of these, a minimum of 18 ECTS credits must be acquired from modules requiring an exam). Some of these courses require prior approval by the Board of Studies.</p> <p>Courses that do not require prior approval by the Board of Studies:</p> <p>(1) Students can take modules of their own choice from courses offered as part of the specialization studies (up to eight modules).</p> <p>Courses that require prior approval by the Board of Studies:</p> <p>(2) Students can take suitable courses that are part of other degree programs at the University of Freiburg (up to 24 ECTS credits).</p> <p>(3) Students can enrol in additional courses offered by the Language Teaching Centre of the University of Freiburg (up to 24 ECTS credits).</p> <p>(4) Students can undertake an internship or a practical project (up to 18 ECTS credits).</p> <p>(5) Students can undertake supervised independent scientific research (up to 12 ECTS).</p>	
Learning Goals	As announced for the respective course.	
Methods of assessment & grading structure	As announced for the respective course.	

6.2 Frontiers in Research		# 7270
Study Area	Electives	
Type of Module	Compulsory Elective	
Module content & objectives	<p>Students attend a research seminar, research-oriented talk series, research “Kolloquium” or research conference covering at least three full talks of at least 45 minutes each. They produce a portfolio of work which enables them to engage with the research presented, and which documents that engagement.</p> <p>Prior to the event, students need to recruit a member of academic staff of ALU as elective supervisor. This needs to be documented in writing. The supervisor specifies the assignment choices as listed below and evaluates the fulfilment of the requirements.</p> <p>The module is primarily aimed at students in their third and fourth year of studies, and is especially encouraged in conjunction with a bachelor thesis. Unless specified otherwise by the Dean of Studies prior to the event, it covers two ECTS. By adding several such modules over the course of the degree program, no more than six ECTS should be covered.</p>	
Learning Goals	<ol style="list-style-type: none"> <li>(1) to get to know a standard academic discussion format</li> <li>(2) to prepare a systematic engagement with challenging current research</li> <li>(3) to compare and contrast contributions within an oral scientific format</li> <li>(4) to synthesize information from such formats and put it in writing</li> <li>(5) to understand the role of oral scientific formats in research</li> </ol>	
Methods of assessment & grading structure	<p>Studienleistung only. The supervisor has to make sure ECTS contact hour and workload requirements are met and documented, especially when the number of talks attended is small.</p> <ol style="list-style-type: none"> <li>(1) Attendance at all events, in accordance with the LAS attendance rules, certified in writing by the host institution.</li> <li>(2) An annotated bibliography of at least ten titles relating to the over-all topic of the talk series/ workshop, prepared in advance.</li> <li>(3) A structured summary of each talk in the series/ event, 250-500 words, plus a short list of open questions, critical remarks or further ideas relating to each talk.</li> <li>(4) A review of the event, in a form that mirrors a standard review format used in the discipline in question (as used in journals or online resources). This can be completed as a group assignment of up to three participants. 1200 words per participant.</li> </ol> <p>OR</p> <ol style="list-style-type: none"> <li>(5) Two book reviews of directly topically relevant works of one or two speakers at the event. 750 words each.</li> </ol>	

**7 Language**

<b>7.1 Language</b>		<b># 7100</b>
Study Area	Major	
Type of Module	Compulsory Elective	
Module Coordinator	-	
Module content & objectives	<p>Students must earn 36 ECTS credits by enrolling in courses that will help them to acquire or to improve their existing foreign language skills.</p> <p>(1) Students can take language courses offered by the UCF (These courses are only offered depending on student need).</p> <p>(2) Students can take language courses offered by the Language Teaching Centre of the University of Freiburg or other institutions of the University of Freiburg. Courses outside UCF require prior approval by the Board of Studies.</p>	
Learning Goals	As announced for the respective course.	
Methods of assessment & grading structure	As announced for the respective course.	