Module Descriptions

Annotation:
In the following module descriptions, learning goals and qualifications are classified into a common categorization. This classification builds on a taxonomy of educational objectives, most commonly known as Bloom’s Taxonomy, which was developed by a group of measurement specialists under the coordination of Benjamin S. Bloom in the 1950s. Here, a revised taxonomy of educational objectives (following Anderson & Krathwohl, 2001) is applied. This classification comprises the following categories:

1. **Remember:** retrieving relevant knowledge from long-term memory
2. **Understand:** determining the meaning of instructional messages (interpreting, exemplifying, summarizing…)
3. **Apply:** carrying out or using a procedure in a given situation
4. **Analyze:** breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose
5. **Evaluate:** making judgment based on criteria and standards
6. **Create:** putting elements together to form a novel, coherent whole or make an original product
MEG Semester Schedule | Winter 2018-19

4. Sem. 2019

Master Thesis

5.11. - 23.11.
MEG Electives:
- Env. Conflict Mgmt & Participation
- Sustainability & Mgmt. & Reporting
  Schanz
- Environmental Movements and NGOs
  Espinosa

Forests & Rural Development
  Pokorny

7.1. - 25.1.
MEG-Elective:
- Urban Sustainability Transition
  Spith
- Transparency & Accountability in GSCs
  Parzsch
- MEG-related Electives:
  Life Cycle Mgmt
  Pauluk

MEG-Elective:
- Research Design in Env. Gov.
  Malet
- MEG-related Elective:
  Economics of Biodiversity and Ecosys. Services
  Baumgartner

3. Sem. 2018/19

Internship
  Malet

4. Sem. 2019

Internship
  Malet

2. Sem. 2019

Dates and sequence of Modules as well as offered Electives not yet confirmed

Economics, Institutions, & the Environment
  Baumgartner

8.4. - 26.4.

29.4. - 17.5.
Ecosystem Management
  Pokorny

20.5. - 7.6.
Environmental Policy Analysis
  Kruse

17.6. - 5.7.
MEG-Electives:
- Leadership & Social Entrepreneurship
  Malets / Borner
- Sustainability Planning & Assessment
  Schanz
- MEG-related Elective:
  Urban Transform. & Planning Responses
  Funfgeld

8.7. - 28.7.
Environmental Psychology and Sociology
  Pregernig

18.2. - 1.3./7.4.
Internship
  Malet

1. Sem. 2018/19

Sustainability & Governance
  Pregernig/Schanz

Global Societal Changes
  Schanz

Global Environmental Changes
  Bauhuis

Human-Environment Interactions
  Pregernig

Regional Studies
  Funfgeld

Governance Research and Skills
  Pregernig

Global Environmental Politics
  Malet

(as of September 2018)
$1^{\text{st}}$ Semester

(Winter Term 2018/19)
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<td>Sustainability and Governance</td>
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<th>Semester / Rotation</th>
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<td>Core module</td>
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<th>Prerequisites for attendance</th>
<th>Language</th>
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<th>ECTS-LP (Workload)</th>
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<tr>
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<td>5 (150h, of this 55 attendance)</td>
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<table>
<thead>
<tr>
<th>Module coordinator</th>
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<tbody>
<tr>
<td>Prof. Dr. H. Schanz, e-mail: <a href="mailto:heiner.schanz@envgov.uni-freiburg.de">heiner.schanz@envgov.uni-freiburg.de</a></td>
</tr>
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<table>
<thead>
<tr>
<th>Additional teachers involved</th>
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<tbody>
<tr>
<td>Prof. Dr. U. Schmidt, e-mail: <a href="mailto:uwe.e.schmidt@ifp.uni-freiburg.de">uwe.e.schmidt@ifp.uni-freiburg.de</a>; Prof. Dr. M. Pregernig, e-mail: <a href="mailto:michael.pregernig@envgov.uni-freiburg.de">michael.pregernig@envgov.uni-freiburg.de</a></td>
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**Syllabus**

‘Sustainable development’ is an ambivalent term: it stands out both for its strong political appeal and its high degree of analytical vagueness. Based on a historical overview of natural resource conservation efforts, students get familiarized with the cultural roots of the concept and major shifts in its meaning. Today, sustainable development is a concept used in many different forms in at least as many different contexts. The module highlights the importance of the concept in local, national and international political processes. It critically assesses the opportunities, as well as the challenges, of operationalizing sustainable development, <i>inter alia</i>, by means of criteria, indicators and application of the ‘Sustainability Matrix’ approach. Different approaches to sustainable development are illustrated using examples of urban development, natural resource conservation, and development cooperation.

Sustainable development requires adequate <i>governance</i> processes. Although governance has received increasing attention as a research object from many disciplines, no simple understanding of the term has evolved yet. Students will be introduced to different meanings, modes and theoretical approaches to the concept of governance. Their respective promises and pitfalls in relation to the conservation of natural resources and sustainable development will be elaborated based on case studies from different regions of the world.

The key topics of this module will be imparted by means of interactive lectures (‘Socratic teaching’), guided reading exercises, excursions, and the preparation and presentation of cases in groups.

**Learning goals and qualifications**

In this module students learn to:

- describe the history of natural resource conservation efforts and their link to sustainable development (1);
- understand the interests and world views that have influenced the discourse on ‘Sustainable Development’ in the various phases of its diffusion (2);
- identify challenges of assessing sustainability by means of indicators, and develop the capacity to deal with conflicts that may result from trade-offs and diverging priorities (3);
- identify and interpret the different meanings, modes and theoretical approaches of the governance concept (2);
- understand the changing roles of governments, private sector actors, and civil society in the governance of human-environment interactions (2);
- apply basic literature and internet research skills (3);
- demonstrate basic presentation skills (3).
Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.


Module number | 94135  
Module name | Global Societal Change

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<th>Course of study</th>
<th>Type of course</th>
<th>Semester / Rotation</th>
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<td>M.Sc. Environmental Governance</td>
<td>Core module</td>
<td>1st / Winter Term</td>
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<th>Prerequisites for attendance</th>
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<tr>
<td>Written exam (90 min), group work, assignment</td>
<td>5 (150h, of this 55 attendance)</td>
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Module coordinator  
Prof. Dr. H. Schanz, e-mail: heiner.schanz@envgov.uni-freiburg.de

Additional teachers involved  
Dr. M. Adelmann, e-mail: martin.adelmann@abi.uni-freiburg.de;  
Prof. Dr. P. Poschen, e-mail: peter.poschen@envgov.uni-freiburg.de

Syllabus  
Increasing attention has been paid to global environmental issues in the last decades. However, a deeper understanding of these material and physical phenomena requires looking at emerging global societal trends. The Module is divided into three parts:

In a first part, the students were introduced in a theoretical and practical analysis of globalization as a process encompassing transformations in social, political and economic structures that shape and responding to environmental changes. Based on it, multi-layered issues such as migration, urbanization, poverty and gender are reviewed in relation to the normative goal of sustainable development. Moreover, students are familiarized with development theories that take into account structures of international (development) cooperation.

In a second part the students were introduced in trends in economies and the changing landscape of labor markets.

As a third part, an academic excursion to the headquarters of the GIZ and the KfW give the students an insight into the applied work of how development agencies deal with the discussed issues.

Overall, students are invited to reflect on the current global patterns of production and consumption in a context constrained by environmental problems and inter- and intra-generational inequalities. They are required to apply concepts and theories to case studies presented in class.

Learning goals and qualifications:

In this module students learn to:

- understand emerging trends of global societal change and their interrelation with global environmental change (2);
- compare the effects of global societal change between different social groups and regions of the world (2);
- evaluate different theoretical approaches and explanatory frameworks that attempt to give account of global societal change (5);
- produce case studies transferring scientific concepts to applied problems (6);
- apply different assessment approaches (incl. systems analysis, value chain analysis, life cycle analysis) (5);
- exemplify theoretical constructs with real life examples (2);
- comprehend applied engagement and work in the area of global societal change.
Core readings:

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. The following are some of the preliminary readings:


Module number 94125
Module name Global Environmental Changes

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<th>Semester / Rotation</th>
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<tr>
<td>M.Sc. Environmental Governance</td>
<td>Core module</td>
<td>1st / Winter Term</td>
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<tr>
<td>M.Sc. Environmental Sciences</td>
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<tr>
<td>M.Sc. Forest Science</td>
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<tr>
<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<tbody>
<tr>
<td>Presentations by lecturers, group work and discussions, presentations of results</td>
<td>None</td>
<td>English</td>
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<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Exam (100 min), presentation</td>
<td>5 (150h, of this 55 attendance)</td>
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Module coordinator
Prof. J. Bauhus and Dr. Steffen Entenmann e-mail: steffen.entenmann@waldbau.uni-freiburg.de

Additional teachers involved
Prof. Dr. Pregernig, Prof. Dr. de Graaf, Prof. Dr. Werner, PD Dr. Schack-Kirchner, and others

Syllabus
Students will be introduced to some of the most important global environmental problems, such as pollution, forest loss and degradation, global warming, eutrophication of ecosystems, land use change, water scarcity, soil degradation, and others. Concurrently, the module is designed to familiarize students with the process of gaining reliable information about the environment. This competence will be applied when student groups prepare a short presentation on adaptation options to a particular global environmental change issue. In this presentation, the students will address the following points:

1. Why is this aspect of adaptation important? What are the dimensions of this problem and how does it affect humans and society?
2. How certain are the data to quantify this environmental change problem? What are current trends and how certain are the predictions for its future development?
3. What information/evidence do we have on the likely success of the particular adaptation strategy? Are there already any technical or political solutions in place? How effective are they?

Against this background, research ethics, the quality and reliability of scientific information, and the role of science in the public discourse will be discussed.

Students will work independently in groups to develop these presentations. Tutors will guide them in this task. The content of the presentations and lectures will provide the basis for a final exam at the end of the module. The assessment is based on the presentation (40%) and the exam (60%).

Learning goals and qualifications
In this module students are expected:

- to gain an understanding of the most pressing global environmental issues (2);
- to develop an understanding of important models and assumptions used to predict future environmental conditions, and the uncertainties associated with them (3)
- to develop the capacity to assess scientific information critically (5)
- to reflect on the role of science in society (4, 5)

Development of the following qualifications is supported:

- Literature, research, research skills, reading of scientific documents
- Presentation skills
Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. The following links are some preliminary readings:

https://www.ipcc.ch/report/ar
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<thead>
<tr>
<th><strong>Module number</strong></th>
<th><strong>Module name</strong></th>
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<tr>
<td>94145</td>
<td>Human-Environment Interactions</td>
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<th><strong>Semester / Rotation</strong></th>
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<td>MSc Environmental Governance</td>
<td>Core module</td>
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<tr>
<td>MSc Forest Sciences</td>
<td>Elective module</td>
<td>3rd / Winter Term</td>
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<tr>
<td>MSc Environmental Sciences</td>
<td>Elective module</td>
<td>3rd / Winter Term</td>
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<th><strong>Language</strong></th>
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<td>lecture, group work</td>
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<td>English</td>
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<tr>
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<tr>
<td>Prof. Dr. M. Pregernig, e-mail: <a href="mailto:michael.pregernig@envgov.uni-freiburg.de">michael.pregernig@envgov.uni-freiburg.de</a></td>
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<tr>
<td>Prof. Dr. M. Shannon</td>
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**Syllabus**

All people live within an environmental context and all societies have developed ways of managing their interactions with their environment. This course explores the various ways in which societies organize and manage relationships with their environmental context, and their use and appreciation of natural resources. Social institutions can take many forms: rituals, traditions, informal practices, and formalized procedures.

In the first part, this course will focus on key concepts to understand human-environment interactions (incl. property, resources and institutions); in the second part, it will deal with various conceptual frameworks of environmental management. Throughout the course, experienced scholars and PhD students will present and discuss integrated case studies.

Students will have a core set of readings to introduce them to the main institutions for managing human-environment interactions. Student teams will chose a real-world case study of problematic human-environment interactions and will analyze this case study based on the concepts introduced and discussed in class. In general, classes will be a mix of lecture and discussion for which students have prepared the readings in advance.

**Learning goals and qualifications:**

In this module students are expected:

- to gain an understanding of the ways in which societies organize and manage human-environment relationships (2);
- to recognize the necessity of an interdisciplinary approach to manage human-environment systems (2);
- to develop the capacity to assess institutional arrangements (5);
- to reflect on approaches to manage human-environment interactions (5);
- to improve problem solving skills and time management (3);
- to demonstrate a high level of creativity during group work (3).

**Core readings**

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.


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<td>94155</td>
<td>Regional Studies: Integrated Case Study</td>
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<td>M.Sc. Environmental Governance</td>
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<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
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<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<td>Group work, presentation, report/essay</td>
<td>5 (150h, of this 55 attendance)</td>
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<tr>
<th>Module coordinator</th>
<th>Additional teachers involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Dr. H. Fünfgeld, e-mail: <a href="mailto:hartmut.fuenfgeld@geographie.uni-freiburg.de">hartmut.fuenfgeld@geographie.uni-freiburg.de</a></td>
<td>A. Oltmanns</td>
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</tbody>
</table>

**Syllabus**

In this course students will be introduced to conventional and emerging concepts of geographical regional studies. This will encompass integrated and interdisciplinary approaches of geographical research, including social constructivist perspectives on these fields.

In addition, students will be made familiar with Geographic Information System (GIS) software. This methodological tool is used to support decision-making processes in environmental governance. After a five-day introduction to the software, students will apply their GIS skills to a case study (see below).

The concepts of geographical regional studies will be applied to case studies covering particular social and environmental topics of the Freiburg region e.g. concerning urban development, regional transformations and governance processes. These practical exercises will be carried out in groups, giving students the opportunity to examine an issue of their interest in more depth, using interdisciplinary approaches. Here, groups can opt for various methods of data collection and integrate their GIS skills. The outcomes of the case studies in Freiburg will be presented to the whole group and the teaching staff at the end of the module. The case study research results, the quality and the reliability of the acquired scientific information (including geo-data), and the critical assessment of the case study approach will form part of the assessment.

**Learning goals and qualifications**

In this module students learn to:

- Understand and evaluate different methodological approaches for regional analysis (1, 5);
- Use Geographic Information System software at a basic level (1);
- Evaluate the construction and use of geo-data and its role in policy making (5);
- Appreciate the social, institutional and political dimensions of scientific information (2);
- Analyze scientific documents and interpret scientific data (4, 2);
- Understand and apply research ethics (2, 3); and
- Produce case studies applying theoretical concepts of regional geography and skills of GIS software to factual situations (6, 3).

**Core readings**

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. The following are some preliminary readings:


Module name: Governance Research and Skills

Course of study: M.Sc. Environmental Governance

Type of course: Core module

 Semester / Rotation: 1st / Winter Term

Teaching methods: lecture, workshop, group work, self-study

Prerequisites for attendance: None

Language: English

Type of examination (duration): Group work, participation, assignments

ECTS-LP (Workload): 5 (150h, of this 55 attendance)

Module coordinator: Prof. Dr. Michael Pregernig, e-mail: michael.pregernig@envgov.uni-freiburg.de

Additional teachers involved: Prof. Dr. H. Roehl; G. Dubow

Syllabus

Studying socio-environmental problems requires critically engaging with different types of data, cooperating with researchers and other stakeholders with diverse backgrounds, as well as an ability to write analytically and scientifically. This module fosters the development of key governance skills, which are connected with tools and practices of organizational learning, a variety of methods and techniques for conducting governance research, and effective scientific writing. Accordingly, the module is organized into three blocks of approximately one week.

An essential prerequisite for fostering governance processes is, inter alia, the ability to understand organizations and their inherent logics. The first week of the module will largely be devoted to the topic of organizational learning. Students will get acquainted with tools of organizational knowledge management and dialogue methods for social change as well as the basics of futures research and scenario planning techniques. Based on that, they will develop a personal change agenda.

The inherent complexity of socio-environmental issues often makes it more challenging and increasingly necessary for these issues to be clearly outlined for the public, government authorities, and private actors by scientists, so that they can be effectively addressed. In this regard, scientific knowledge is useful for detecting, describing, and explaining socio-environmental problems and developing corresponding solutions. Nonetheless, not all knowledge dubbed ‘scientific’ has the same quality, and not all research is conducted in line with good scientific practices. This block presents an overview of the principles of solid scientific methods in the social sciences. Students acquire the necessary skills to differentiate solid research from ungrounded science. Building on central debates of the philosophy of science, the commonalities and specificities of quantitative and qualitative scientific methods are outlined. Students become familiar with different types of research designs and are able to critically assess them. They develop an understanding of different strategies of data collection, sampling, data interpretation and analysis. Finally, students become aware of the ethical underpinnings of good scientific practice.

The third week will be devoted to the question of “what makes a (scientific) text a pleasure to read?” Formulating clear analytical questions, developing a stringent line of argumentation, and using proper scientific language are critical for doing governance research. The focus of this last part of the module will be on the coherence of scientific texts (i.e. overall structure, logic and content), on cohesion (i.e. the links within the text, including signposting, conjunctions and relative pronouns, in written English), on register (i.e. the degree of formality), and on flow (i.e. writing in a clear academic style that helps the reader to move through the text and grasp the main ideas without undue effort). Students apply these skills in written assignments.

Learning goals and qualifications:

In this module students will learn to

- outline the characteristics of selected tools of organizational learning, and make use of these tools (2)
- discuss the commonalities and specificities of quantitative and qualitative social scientific methods (4)
- evaluate central ethical dimensions of good scientific practice (5)
- discern and apply basic guidelines of effective scientific writing (3)
Core readings
**Module number**: 94175

**Module name**: Global Environmental Politics

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<th>Course of study</th>
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<th>Semester / Rotation</th>
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<td>MSc Environmental Governance</td>
<td>core module</td>
<td>1st / Winter Term</td>
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<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<tr>
<td>Lectures, group work, written assignment</td>
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<td>English</td>
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<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Research paper (re-examination: also research paper)</td>
<td>5 (150h, of this 55 attendance)</td>
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**Module coordinator**

Dr. Olga Malets, e-mail: olga.malets@envgov.uni-freiburg.de

**Additional teachers involved**

Prof. Dr. Heiner Schanz, e-mail: heiner.schanz@envgov.uni-freiburg.de

Prof. Dr. Peter Poschen, e-mail: peter.poschen@envgov.uni-freiburg.de

**Syllabus**

The goal of this module is (1) to review and evaluate the organizational structure of the global environmental governance system, and (2) to practice research and academic writing skills in the area of global environmental politics and development. Accordingly, the module consists of two interrelated parts.

In the first part of the module, students will gain knowledge of theoretical and analytical approaches to global environmental governance. Students will analyze the structure, authority, legitimacy and effectiveness of global environmental governance. Teaching methods include interactive lectures, independent individual and group work in class, and reading assignments. Furthermore, students have the opportunity to attend an excursion to encounter different international organizations. The excursion is an accompanying offer to deepen their knowledge and allow them to gain insights into the operation and functioning of various types of international organizations.

In a second part of the module, students produce a research paper, in which they independently investigate and critically assess one issue in global environmental governance using theoretical and analytical ideas from the first part of the module, and insights and contacts gained throughout the first semester. The overarching goal of the final part of the module – in the context of the Master’s program – is to encourage students to practice their research and writing skills for assignments and a Master’s thesis in the subsequent terms. Students have the opportunity to work on a paper over several weeks. The paper submission deadline is scheduled for the end of the spring break (the exact deadline will be communicated in due time).

**Learning goals and qualifications**

In this module students learn to:

- gain knowledge of, understand, and critically assess the system of global environmental governance (1,2,5);
- understand historical origins of global environmental cooperation and sources of authority for international governmental and non-governmental environmental organizations (2);
- evaluate the role of various types of organizations, including development aid organizations, international organizations, international non-governmental organizations, and international financial institutions, in global environmental politics and governance (5);
- understand and evaluate various pathways of influence of global environmental politics on domestic environmental policies (2,5)
- establish contacts and gain practical experience with the structure, functions and operations of governmental and non-governmental organizations in environment and development areas (3);
- acquire and practice research skills and academic writing skills in international environmental politics and governance (2, 3)
Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. Introductory readings:


2\textsuperscript{nd} Semester

(as of Summer Term 2018
Content not yet confirmed - updated version published in April 2019)
Module number  
94250

Module name  
Economics, Institutions, and the Environment

<table>
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<tr>
<th>Course of study</th>
<th>Type of course</th>
<th>Semester / Rotation</th>
</tr>
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<tbody>
<tr>
<td>M.Sc. Environmental Governance</td>
<td>Core module</td>
<td>2\textsuperscript{nd} / Summer Term</td>
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<tr>
<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
</tr>
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</thead>
<tbody>
<tr>
<td>Exam (90 min)</td>
<td>5 (150h, incl. 55 attendance)</td>
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Module coordinator  
Prof. Dr. S. Baumgärtner, e-mail: stefan.baumgaertner@ere.uni-freiburg.de

Additional teachers involved  
Dr. S. Wolf, e-mail: stephan.wolf@ere.uni-freiburg.de

Syllabus

In this module, students will learn how to view and analyze environmental governance from an economic perspective and employ economic methods. A core idea of economics is that resources that are scarce and have alternative uses should be allocated efficiently with regard to achieving societal objectives, such as the maximization of welfare, social justice, and sustainability. Hence, students will learn and critically discuss a number of principles of economics as applied to problems of environmental governance.

Furthermore, students will learn theoretical concepts and methods of environmental and institutional economics. These concepts and methods will be employed to analyze economy-environment systems. Topics to be covered include the following: public environmental goods, common-pool-resources, and environmental externalities. A particular focus is on the role of institutions and environmental policies, and how to design them such that they work efficiently in solving environmental problems.

Overall, this module is about the interrelationship between individuals, society, and nature. The guiding questions are: What is the outcome if self-centered individuals act independently and in their own interest (such as when trading on competitive markets)? How can institutions help achieve societal allocations that maximize social welfare (through top-down government by the state, as well as through fostering and mediating bottom-up social interactions)? And who bears responsibility for what, and to what extent, when the objective is sustainable development?

Learning qualifications

- Knowing what constitutes economics as a scientific discipline, and environmental economics in particular (1,2)
- Understanding how economists explain the emergence of environmental and resource problems (1,2)
- Understanding and explaining the standard solutions economists recommend in order to address environmental problems (1,2)
- Being able to apply the economic framework and the economic tool-set to the analysis of environmental and resource problems (3,4,5)
- Critically assessing the economic approach to environmental governance, and grasping its potential as well as its limits (4,6)

Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.
Module number
94265
Module name
Ecosystem Management

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<tr>
<th>Course of study</th>
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<th>Semester / Rotation</th>
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<tr>
<td>M.Sc. Environmental Governance</td>
<td>Core module</td>
<td>2nd / Summer Term</td>
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<tr>
<td>M.Sc. Forest Sciences</td>
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<tr>
<td>M.Sc. Environmental Sciences</td>
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<td>MSc Geographie des Globalen Wandels</td>
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<td>Assessment Report</td>
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<tr>
<td>Prof. Dr. B. Pokorny, e-mail: <a href="mailto:benno.pokorny@waldbau.uni-freiburg.de">benno.pokorny@waldbau.uni-freiburg.de</a></td>
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<tr>
<th>Additional teachers involved</th>
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<tbody>
<tr>
<td>Dr. Luca Corlatti, Dr. C. Fricke, Dr. Jenny Lay-Kumar, PD Dr. Peter Pechacek, Prof. Dr. Michael Pregernig</td>
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**Syllabus:**

In the 1990s, the concept of Ecosystem Management emerged as a new paradigm for the management of natural resources. It is based on the objectives of sustainable use and conservation of natural resources, as well as fair and equitable sharing of benefits from ecosystem goods and services. Underpinning this approach are explicit objectives for the management of natural resources that can be translated into measurable goals, and subsequent monitoring. Ecosystem management recognizes that ecosystems are complex and interconnected, and function on a range of spatial and temporal scales. While management should be based on sound ecological models and aimed at maintenance of ecosystem integrity, the approach acknowledges that ecosystem knowledge is limited, and paradigms are provisional and likely to change. Consequently, management approaches are viewed as hypotheses, which require testing through systematic research and monitoring, resulting in adaptive management. In this module, students will be introduced to the concepts underpinning the Ecosystem Management approach, enabling them to critically evaluate its strengths and limitations. The module comprises an excursion of approximately one-week duration to a landscape setting, which serves as a case study through which to examine the approach. In the last phase of the module, the students discuss their field experiences, and, based on that, write a report in which they assess the feasibility, potential and limitations of the approach.

**Learning goals and qualifications**

In this module students learn to:

- understand basic ecological principles (2);
- identify and analyze the importance of ecosystem functions (1, 4);
- interpret the main concepts underpinning the Ecosystem Management Approach (2);
- recognize the necessity to integrate social and natural science knowledge for effective ecosystem management (2);
- evaluate the strengths and limitations of the Ecosystem Management approach using a case study of a forested landscape in Central Europe (5),
- produce a framework for Ecosystem Management, recombining concepts and principles learned during the course (6).
Core Readings:

Additionally, a list of relevant texts will be made available at the start of the course
**Module number**
942255

**Module name**
Environmental Policy Analysis

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<th>Course of study</th>
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<td>Core module</td>
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<tbody>
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<td>Group presentation, role-play reflected essay, exam (90 min)</td>
<td>5 (150h, of this 55 attendance)</td>
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**Module coordinator**
Dr. Ida Wallin, Email: ida.wallin@ifp.uni-freiburg.de

**Additional teachers involved**
Dr. W. Zink, PD Dr. G. Winkel, Dr. Sina Leipold

**Syllabus**
Governments have sought to address environmental issues by formulating and implementing a wide array of policies. These practices, which formally comprise the policy process, have attracted important academic attention. As a result, various theories have been formulated with the aim of understanding this process and informing decision makers. Taking into account these elements, this module includes a critical review of the premises of classical and contemporary theories of political science. With that, students are enabled to appreciate how policy studies have evolved from positivistic and rational models to approaches that seek to give account of the role of ideas and beliefs in the formulation and implementation of environmental policies. Likewise, it becomes evident how policy formulation and implementation involves actors beyond government agents, presenting the opportunity to discuss emerging governance arrangements.

The theoretical and practical contents presented instruct students how to conduct policy analyses. Additionally, and in a more formal manner, frameworks applied to policy analysis are presented such as the multiple streams approach, the study of policy networks, the advocacy coalition framework, and discourse analysis. Students have to choose one of these approaches and apply it in a case study.

**Learning goals and qualifications**
In this course students learn to:
- differentiate basic concepts of political science and assess their usefulness for policy analysis and environmental governance (2);
- understand the elements affecting the processes of environmental policy making and the coordination mechanisms of decision making needed for its success (2);
- critically evaluate political theories, concepts, perspectives and approaches of policy studies (5);
- analyze the dynamics between international environmental treaties and national environmental legislation (4);
- conduct environmental policy analysis and policy evaluation research (3, 6).

**Core readings:**
A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.
Syllabus

While environmental governance is often associated with governments, it also takes into account the role of other stakeholders that have an impact on the environment, including the private sector, NGOs and civil society. This module will deal with two prominent approaches in the field of environmental governance: (i) (environmental) leadership, particularly beyond governments, and (ii) social entrepreneurship.

(i) Recent research shows that environmental leadership is often viewed as an “unequivocal good” and important for effective environmental governance; however, these assumptions are rarely critically discussed and empirically tested (Evans et al. 2015). Environmental leadership remains a broad, multi-faceted and contested concept. We will review theories of leadership in order to understand what it takes to be a leader, what leaders do, where leaders come from, how leaders interact with their social environment and their followers, how leadership develops, and how specifically leadership shapes environmental and sustainability governance. The students will apply various approaches to leadership to specific case studies in order to explore the role of leaders and leadership in concrete organizations and contexts.

(ii) The concept of Social Entrepreneurship addresses social and ecological challenges that are unmet by private markets or governments; it is motivated primarily by generating earned income to serve a social mission, or by the role of innovation in creating social change. In this course, the key tenets of social entrepreneurship are discussed and exemplified by specific “business cases.” In the practical part of the course, students will evaluate real-world start-up social enterprises via small “consultancy projects.” Students will conduct business case studies and present their evaluations to the class. In summer 2018, students will work with inclusive businesses in India. The enterprises are part of the Empowering People Network of the Siemens Stiftung, promoting development through sustainable entrepreneurship.

The module also includes a one-day study trip to RegionalWert A.G., a social enterprise and a citizen shareholder society that supports sustainable regional agriculture and food economy in the Freiburg area by linking citizen investors and sustainable enterprises.

Learning goals and qualifications

In this module students learn to:

- gain knowledge of, understand and critically assess different approaches to (environmental) leadership and social entrepreneurship (1, 2);
- evaluate the role of leaders and leadership in environmental governance processes (5);
- compare the perspectives, strengths and weaknesses of different approaches (4);
- apply theoretical approaches to current issues and specific cases of leadership and social entrepreneurship (3); and
- evaluate how theoretical approaches to social entrepreneurship work in practice (5).
Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. The following are some preliminary readings.


### Module number
95993

### Module name
Sustainability Planning and Assessment

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<th>Course of study</th>
<th>Type of course</th>
<th>Semester / Rotation</th>
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<td>MSc Environmental Governance</td>
<td>Elective module</td>
<td>3rd / Summer Term</td>
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<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<table>
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<td>ECTS-LP (Workload)</td>
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<table>
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<th>Language</th>
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<tr>
<td>Prof. Dr. Heiner Schanz, e-mail: <a href="mailto:heiner.schanz@envgov.uni-freiburg.de">heiner.schanz@envgov.uni-freiburg.de</a></td>
<td>English</td>
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### Additional teachers involved
Max Kleemann (Modeler and Policy Analyst at the Millennium Institute), e-mail: max.kleemann@envgov.uni-freiburg.de

### Syllabus
In this module, students will be introduced to emerging concepts of public planning with regard to sustainability, i.e. appreciating the spatial and temporal dimensions of sustainability transformations.

Starting from conventional frameworks of spatial planning, the evolution of strategic planning concepts in the sustainability context will be reviewed. This includes an overview of the characteristics, strengths, and limitations of major planning theories. At the core of the module stands a state-of-the-art understanding of specific and integrated strategies for sustainability planning and environmental assessments: conceptual approaches, theoretical underpinnings and methodologies.

The module structure is as follows: each day obligatory (self) preparation of lectures through intensive reading of core article, during contact hours: student facilitated discussion in groups and followed by Socratic method-lecture based on reading summary. Theoretical contents will be illustrated

- through a case study on “Planning and Implementing the Energy Transition in the State of Baden-Württemberg”, including field excursion.
- in a one-day workshop using the ISDG-System Dynamics Model developed by the Millennium Institute ([http://www.millennium-institute.org/](http://www.millennium-institute.org/))
- three day workshop on causal loop diagramming

Grading will be based on preparation of individual policy briefs on the model-based analysis of the issue

### Learning goals and qualifications
In this module students learn to:

- understand the historical and theoretical origins of planning approaches for sustainability (2)
- evaluate different sustainability assessment approaches, models, appraisals, and methodologies (5)
- appreciate the spatial and temporal dimensions of sustainability transformations
- develop critical thinking, reading, and research skills (3, 6)
- learn to effectively and concisely present their findings through policy briefs (3)
- facilitate group discussions and provide constructive feedback to classmates’ presentation (3)
- introduction to causal loop diagramming (1, 2)

### Core readings
Obligatory readings during module and in preparation of lectures (one per day):


Cities around the world are transforming rapidly. Urban transformation processes are embedded in politico-institutional arrangements and socio-economic and socio-cultural developments. At the same time, they are triggered by both global and local dynamics including mobilities of people, capital, goods and ideas. Such perspectives also call for overcoming the previous North-South divide in urban studies and urban geography and for considering cities around the globe as ‘ordinary’. ‘Ordinary cities’ are places of opportunities for participation, citizenship claims and sustainable development. They are, however, also places where poverty and exclusion are experienced and (environmental) insecurity and risks are produced, requiring adequate governance and planning responses for more inclusive and sustainable cities. This is all the more important since many of the ‘burdens’ are unevenly distributed among population groups. This course focuses on contemporary urban transformation processes from an international perspective.

In the first part of the course we will work out and revisit theoretical perspectives for understanding cities in a world of cities and analysing urban transformations. We will discover and discuss different concepts of urban theory and distinguish different strands of theorization. We will then move on to analysing urban governance and developing planning responses. For the first part, autonomous and guided reading of core texts will be required as well as active participation in the classroom.

In the second part we will concentrate on selected empirical topics of urban transformations, for example the demand for land and housing or issues of the urban environment and human health in transforming cities around the globe. For each of these topics we will identify and discuss challenges as well as policy and planning responses. After identifying and examining key drivers and relevant actors, we seek to understand how and why they respond to the challenges of urban transformations, i.e. policy makers and statutory (planning) administration, market forces, civil society and subaltern groups. For the second part, the students will be required to work on the selected empirical topics in groups and will prepare in-class workshops.

The third part is designed to synthesize the discussed theoretical and empirical perspectives and wrap up the contents of the course. This part will be based on analysing and comparing various case study cities. One case study will be set in the tri-national Basel region. A one-day field trip to Basel will give us the opportunity to experience and scrutinize transformation processes and responses on site and speak to important local actors. We will have opportunity to discuss and reflect on challenges and responses across various areas or sectors and compare and contrast the case studies. There will also be enough time for the students to finalize their individual writing assignments.
Learning goals and qualifications

After completion of this module students will be able to:
- demonstrate a critical understanding of contemporary processes of urban transformation (1,2),
- understand the North-South divide in urban studies and take on an integrated perspective (2,3),
- discuss governance and planning responses for inclusive and sustainable cities from the perspectives of academics and practitioners (2,4),
- analyse academic publications, policy documents and other planning-related materials (3,4),
- apply the knowledge of contemporary processes and responses to a case study city (3,4,5), and
- compare, contrast and transfer their knowledge to other cases (5, 6).

Classification of cognitive skills following Bloom (1956):
1 = Knowledge: recalling facts, terms, basic concepts and answers; 2 = Comprehension: understanding something; 3 = Application: using a general concept to solve problems in a particular situation; 4 = Analysis: breaking something down into its parts; 5 = Synthesis: creating something new by putting parts of different ideas together to make a whole; 6 = Evaluation: judging the value of material or methods.

Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. The following are some examples of texts we will be reading in the course:
**Module number**
94260

**Module name**
Environmental Psychology and Sociology

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<th>Type of course</th>
<th>Semester / Rotation</th>
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<td>M.Sc. Environmental Governance</td>
<td>Elective</td>
<td>2(^{nd}) / Summer Term</td>
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<th>Prerequisites for attendance</th>
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<tr>
<td>Exam and scientific poster</td>
<td>5 (150h, of this 55 attendance)</td>
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**Module coordinator**
Dr. C. Espinosa, e-mail: cristina.espinosa@ifp.uni-freiburg.de

**Additional teachers involved**
Prof. Dr. A. Ernst (Environmental Psychology), e-mail: ernst@usf.uni-kassel.de

**Syllabus**
Environmental psychology and sociology examines how humans interact with their biophysical environments. Environmental psychology studies human-environment interactions from the perspective of *individuals*, while environmental sociology takes the perspective of *collective actors* (groups, organizations, societies). The module is split in two parts according to this disciplinary distinction:

1. **Environmental Sociology:** The sub-module starts with a historic overview of the field. In a second step, various theories of environmental sociology are introduced and exemplified by means of concrete applications. The set of presented theories includes Ecological Marxism, Ecological Modernization, the Theory of Social Practices, Social Movements Theory, Ecofeminism, etc. In a third step, student groups critically apply selected theoretical approaches to empirical case studies of their choosing.

2. **Environmental Psychology:** The sub-module lays the theoretical grounds for individual environmental behavior by describing a well-known behavioral architecture. The role of incentives, environmental awareness, perceived behavioral control and group influences will be addressed. Furthermore, students will learn about how environmental risks are constructed and perceived, taking into account the intrinsic complexity of social and environmental systems through which they evolve and take shape. Finally, decision support systems will be discussed with respect to their impact on individual as well as institutional decision making and behavior.

**Learning goals and qualifications**
In this module students learn to:

- differentiate conceptualizations of nature-society interrelations and their implications for current environmental problems (2);
- apply theoretical approaches to the study of current environmental issues (3);
- evaluate the role of incentives, environmental awareness, and group influence in environmental conservation (5);
- assess the psychological dimensions of environmental risks and their effect on decision making and policy implementation (2).

**Core readings**
A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. Preliminary readings:


3rd Semester

(Winter Term 2018/19)
Module number
94903

Module name
Elective: Environmental Conflict Management and Participation

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<tr>
<th>Course of study</th>
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<th>Semester / Rotation</th>
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<tr>
<td>MSc Environmental Governance</td>
<td>Elective module</td>
<td>3rd / Winter Term</td>
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<th>Teaching methods</th>
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<tbody>
<tr>
<td>Group work, participation, seminar paper (essay)</td>
<td>5 (150h, of this 55 attendance)</td>
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Module coordinator
Prof. Dr. M. Pregernig, e-mail: michael.pregernig@envgov.uni-freiburg.de

Additional teachers involved
Guest lectures

Syllabus
Conflicting interests and rivalling activities of heterogeneous parties accompany the use of natural resources and landscapes. Conflicts are among the important driving forces in environmental policy. Today, in addition to traditional litigation, a range of alternative methods are used for dispute resolution. These include facilitation, mediation or conflict assessment, which are expected to allow involved stakeholders to reach a mutually satisfactory agreement on their own terms.

In this module, students are introduced in the conceptualisation and the management of environmental conflicts. The course includes both an overview of relevant conflict theory, as well as practical experiences in conflict management. Students are assisted in understanding theoretical frameworks explaining environmental conflicts, and in evaluating conflict resolution and conflict management techniques. Several case studies of conflict analysis and management are presented. In a one-day excursion students will learn about specific conflict resolutions techniques as applied in a rural wind-mill construction project.

The module puts special emphasis on participatory forms of conflict resolution. Based on theoretical literature, students evaluate the advantages of participation, as well as its limits and dangers. Students discuss the foundations of participation in (different) theories of democracy, and they get familiarized with various methods of participatory conflict resolution. Guest lecturers will present practical case experiences.

In a small research project, student groups will work on real-world conflicts, providing a brief description of the conflict setting, and an analysis of the key stakeholders and their interests. They then design ideal-type conflict management or participation techniques. Students’ projects are presented and discussed in class.

Prerequisites for attendance: Students have to bring a good basic understanding of social science theories and methods either substantiated via the successful attendance of relevant courses and/or previous practical experiences.

Learning goals and qualifications
In this module students learn to:

- develop an understanding of the social and political functions of conflicts (2);
- understand the genesis and escalation of environmental conflicts (2);
- understand and apply techniques to manage environmental conflicts (3);
- develop the capacity to evaluate (participatory) conflict resolution and management (5);
- apply research methods (analysis of literature, interview techniques etc.) (3).
Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.


<table>
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<th>Module number</th>
<th>Module name</th>
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<tr>
<td>94135</td>
<td>Elective: Sustainability Management and Reporting</td>
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<td>Elective Module</td>
<td>3rd / Winter Term</td>
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<th>ECTS-LP (Workload)</th>
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<td>Short research assignment / thesis paper</td>
<td>5 (150h, of this 55 attendance)</td>
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<tr>
<th>Module coordinator</th>
<th>Additional teachers involved</th>
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</thead>
<tbody>
<tr>
<td>Prof. Dr. Heiner Schanz; Email: <a href="mailto:heiner.schanz@envgov.uni-freiburg.de">heiner.schanz@envgov.uni-freiburg.de</a></td>
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**Syllabus**

The perspectives on ‘sustainability’ in business and consequently the type of sustainability management companies are engaged in are shifting. Following Gerdeman (2014) some companies still initially focus on compliance issues and due diligence resp. regulatory affairs, whereas others become more strategic about sustainability by focusing on increasing efficiency and increasing reputation through developing business cases based on sustainability considerations. Still other companies shift to more advanced innovative stages by integrating sustainability into the core of the business in ways that transform the company. The shift in sustainability management approaches is accompanied by a growing market for sustainability services, ranging from classical strategy consultants including stakeholder management and CSR-activities to sustainability reporting and sustainability assurance services.

The module provides a conceptual and theoretical overview on different approaches and instruments to sustainability issues in business management and reporting in general. It is not intended as a technical module to train students in the application of different instruments in sustainability management and reporting, but rather to understand the main driving forces underlying the shifts in sustainability management and reporting, as well as in sustainability services. This will be accomplished through a combination of interactive (‘Socratic’) lectures, intensive readings, case studies from different industries as well as short research assignments.

**Learning goals and qualifications:**

In this module students learn to:

- Identify the main approaches of sustainability management and reporting in companies and their distinctive characteristics (1, 2);
- Understand the shifts and their underlying dynamics in approaches to sustainability management and reporting (2);
- Apply basic skills of research to relevant case studies (3, 6).

*Classification of cognitive skills following Bloom (1956):*

1 = Knowledge: recalling facts, terms, basic concepts and answers; 2 = Comprehension: understanding something; 3 = Application: using a general concept to solve problems in a particular situation; 4 = Analysis: breaking something

**Core readings:**

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.


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<thead>
<tr>
<th><strong>Module number</strong></th>
<th><strong>Module name</strong></th>
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<tbody>
<tr>
<td>95991</td>
<td>Environmental Movements and NGOs</td>
</tr>
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<table>
<thead>
<tr>
<th><strong>Course of study</strong></th>
<th><strong>Type of course</strong></th>
<th><strong>Semester / Rotation</strong></th>
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<tr>
<th><strong>Teaching methods</strong></th>
<th><strong>Prerequisites for attendance</strong></th>
<th><strong>Language</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive lectures, group work</td>
<td>Good understanding of social science theories</td>
<td>English</td>
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<thead>
<tr>
<th><strong>Type of examination (duration)</strong></th>
<th><strong>ECTS-LP (Workload)</strong></th>
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<tbody>
<tr>
<td>Portfolio</td>
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<thead>
<tr>
<th><strong>Module coordinator</strong></th>
<th><strong>Additional teachers involved</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. C. Espinosa, e-mail: <a href="mailto:cristina.espinosa@envgov.uni-freiburg.de">cristina.espinosa@envgov.uni-freiburg.de</a></td>
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**Short module description**

More and more, groups, organizations, movements and networks are occupying public spaces, raising critical voices with regard to the trajectories developed by governments, corporate actors, science and associated environmental problems. Idealism and hope permeate perspectives on organized civil society and their role in environmental governance. From local to global scales, environmental movements and non-governmental organizations (NGOs) are skilled campaigners and service providers for various organizations, as well as watchdogs and policy consultants. While some scholars consider environmental movements and NGOs as an expression of a democratic civil society, others question their representativeness and see them as an outcome of neoliberal globalization. This module examines and discusses theoretical and practical implications of the increasing relevance of organized civil society in environmental governance. Covered topics include transnational networks, tactics, targets and impacts of environmental movements and NGOs, as well as the relation of these actors with states, corporate actors and science.

**Learning goals and qualifications**

In this module students learn to:

- Appraise and evaluate different mechanisms through which environmental movements and NGOs influence and participate in environmental governance;
- Explain the distinctions and overlaps between and among non-state actors engaged in environmental governance;
- Improve critical analytical skills by reading academic publications, and reflecting on these publications and academic arguments; and
- Enhance abilities in research and writing, through the development of a research essay and assessment of an environmental campaign.

**Core readings**

A list of relevant texts and the electronic copies of this will be made available at the start of the course. Interested students might want to read the following publications before the course starts:


<table>
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<tr>
<th>Module number</th>
<th>Module name</th>
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<tbody>
<tr>
<td>94360</td>
<td>Forests and Rural Development</td>
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<tr>
<th>Course of study</th>
<th>Type of course</th>
<th>Semester / Rotation</th>
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<tbody>
<tr>
<td>M.Sc. Environmental Governance</td>
<td>Core</td>
<td>3rd/ Winter Term</td>
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<tr>
<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
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<tbody>
<tr>
<td>Lecture, group work</td>
<td>None</td>
<td>English</td>
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<tr>
<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Oral exam (15 min) and project proposal exercise (group work)</td>
<td>5 (150h, of this 55 attendance)</td>
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**Module coordinator**
Prof. Dr. B. Pokorny, e-mail: benno.pokorny@waldbau.uni-freiburg.de

**Additional teachers involved**
Invited experts from the private and public sector

**Syllabus**

In the rural tropics, combining economic development with nature conservation remains an unsolved challenge. Prevailing development dynamics still tend to aggravate rather than to solve environmental problems and may negatively affect local land users. Despite manifold efforts at the national, regional and international levels, in most tropical countries, environmental degradation and marginalization of local land users continue at unabated speeds. In rural regions, the rapid expansion of agro-industry, cattle-ranching, the exploitation of oil, gas and minerals, as well as the construction of roads and dams exacerbate destructive land-use dynamics. This dynamic brings, on the one hand, the benefits of economic development to thousands of rural families, while, on the other hand, threatening their livelihoods and livelihood bases. Against this backdrop, this module intends to critically reflect on theoretical and operational approaches for rural development so as to prepare students for dealing with development practices characterized by multi-stakeholder situations, multiple objectives and complex dynamics. Guided by intensively discussed scientific articles, students will reflect upon the concepts and meanings of development, and the potential and limitations of different approaches and instruments. By exploring options for the development in context of rural forest regions, the module will challenge insights from theoretical and empirical studies.

**Learning goals and qualifications**

In this module students learn to:

- understand the approaches of development, poverty and participation (2);
- develop an understanding of the options of forest-based development in the context of rural tropics (2);
- recognize the complexity and dynamism of socio-ecological systems and identify mechanisms to cope with this complexity (2, 4);
- comprehend the need and possibilities to combine academic and participatory research approaches (2);
- apply skills to design research and development projects (3);
- critically reflect on the implications of development paradigms (5);
- engage in interdisciplinary teamwork to formulate holistic development concepts for a case study in rural tropics (3, 6).

**Core readings**


Module number
94905

Module name
Elective: Urban Sustainability Transition

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<tr>
<th>Course of study</th>
<th>Type of course</th>
<th>Semester / Rotation</th>
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<tbody>
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<td>M.Sc. Environmental Governance</td>
<td>Elective module</td>
<td>3rd Semester</td>
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<tr>
<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<tbody>
<tr>
<td>Learning by Doing (research), Lectures, Discussions</td>
<td>English C1, MEG and/or social science background</td>
<td>English</td>
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<tr>
<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Various (mostly group work)</td>
<td>5 (150h, of this ~60h attendance)</td>
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Module coordinator
PD Dr. Philipp Späth, Email: spaeth@envgov.uni-freiburg.de

Additional teachers involved
External lecturers (tbc.)

Syllabus
The provision and consumption of energy, mobility and food is increasingly studied as an outcome of complex socio-technical systems comprising of material infrastructures, institutions, norms and expectations. As they are developing much inertia, they are also key objects of governance, particularly where the ideal of greater societal sustainability drives transformative policy initiatives. Sustainability oriented initiatives to transform energy, mobility and food systems nowadays often focus on the socio-spatial or governance level of cities where the visions of a sustainable future are articulated and necessary transformative capacity is expected to be found. We study the success of such attempts of transformative governance in Freiburg or another city of our choice.

In the first week, we discuss the basics of transition theory and build up a conceptual framework for the analysis of ongoing sustainability transitions. This includes explanations of stability and change in socio-technical systems and in particular the so-called multi-level perspective. We critically discuss the utility of this framework and how it is challenged by multi-level governance arrangements, what role guiding visions can play in transitions, particularly in urban contexts, and what limits to the steering or rather “navigational” or “bricolage governance” need to be considered in such ongoing and contested transitions.

In the second week, we either visit places in Freiburg that signify the particularity of environmental governance in the city or we study governance initiatives in another city (on which more documents are available in English). If possible, we speak to experts from the city administration, civil society and local enterprises. Students will then focus in groups on the energy, mobility or food system, respectively. Each group will develop its own research questions, conduct additional interviews, analyze key policy documents and search in archives of the local press for additional evidence.

In the third week, each group develops a case study of an attempted sustainability transition on the basis of their empirical work in their chosen sector and present it to the class. The three cases will then be discussed individually and in comparison.

Learning goals and qualifications
In this module students learn to:

- describe key concepts of transition theory (1, 2)
- discuss their applicability to urban processes (i.e. scalability) (2, 4, 5)
- conduct interviews and analyze documents (2, 3, 4, 6)
- apply the key concepts to own observations in Freiburg or another selected city (3, 4)
- compare their case studies (5, 6)

Core readings
A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form.

### Module number
95994

### Module name
Elective: Transparency and Accountability in Global Supply Chains

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<tr>
<th>Course of study</th>
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<th>Semester / Rotation</th>
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<tbody>
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<td>MSc Environmental Governance</td>
<td>Elective Module</td>
<td>3rd / Winter Term</td>
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<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<tbody>
<tr>
<td>Lectures, group work</td>
<td>See below</td>
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<tr>
<th>Type of examination</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Various (group work), written evaluative report</td>
<td>5 (150h, of this 55 attendance)</td>
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<tr>
<th>Module coordinator</th>
<th>Additional teachers involved</th>
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<tbody>
<tr>
<td>PD Dr. L. Partzsch, e-mail: <a href="mailto:lena.partzsch@ifp.uni-freiburg.de">lena.partzsch@ifp.uni-freiburg.de</a></td>
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### Syllabus

Supermarket shelves are full of “fair trade” and “organic” products. These labels indicate that producers follow specific rules and address social and ecological problems along their global supply chains. Such problems range from excessive use of agro-chemicals to financing of armed conflicts. Numerous measures were put in place to promote greater transparency and accountability in global supply chains. In most cases, these requirements aim at permitting consumers in the Global North to make informed decisions about their purchases’ impact on the Global South. More recently, the European Union and the United States have also obliged importers to do “due diligence” checks on their suppliers in foreign countries. The module deals with opportunities and challenges of such political tools, including opportunities for smallholder farmers and processors in countries of origin. We look at specific examples, such as fair trade coffee from Ethiopia imported by Original Food in Freiburg, and discuss success and failure with practitioners involved in the certification business, including NGOs advocating stricter rules. The module helps to understand why transparency is so problematic at the global level and to clarify pragmatic improvements in accountability mechanisms globally. Students should have a strong interest and some experiences in social science theory and methods (prerequisite for attendance).

### Learning goals and qualifications

In this module students learn to:

- understand the theoretical background of global supply chain regulation, including economics of “fair trade” (1, 2);
- reflect on terms such as power, transparency, accountability and legitimacy in global politics (2);
- assess political tools available to public and private actors by empirical reference to major fields of environmental governance (forest, water etc.) (3);
- reflect on challenges of private and public regulation (certification, “due diligence” checks etc.) (2, 5);
- critically evaluate the impact on countries of the Global South (5);
- critically evaluate their own patterns of consumption (5).

### Core readings

A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online. The following are some preliminary readings:


Module number 97020  Module name Elective: Life Cycle Management

Course of study
MSc Renewable Energy
MSc Environmental Governance
MSc Forest & Environmental Sciences

Type of course
Elective Module

Semester / Rotation
3rd / Winter Term

Teaching methods
Lectures, exercises, group work

Prerequisites for attendance
Calculations with Excel, Basic knowledge on vectors, matrices, matrix multiplication and matrix inversion

Language
English

Type of examination
Written exam (33%), Term paper + group work (67%)

ECTS-LP (Workload)
5 (150h, of this 55 attendance)

Module coordinator
Stefan Pauliuk, PhD (stefan.pauliuk@indecol.uni-freiburg.de)

Additional teachers involved
Prof. Dr. Rainer Grießhammer, MSc Rio Aryapratama

Syllabus
The course enables participants to conduct, interpret, document, and present life cycle assessment studies of products or technical installations using state-of-the-art tools and databases.
During the first half of the course, the motivation behind and theory of life cycle assessment, including the modelling of life cycle inventories and life cycle impact assessment, is presented. The participants conduct exercises and study the relevant literature.
During the second half, the participants learn how to conduct and document a life cycle assessment study that meets both ISO and scientific standards. The participants form small groups of 2-3, chose a product or installation, and perform a life cycle management case study. The final report on the case study is due at the end of the module. It will be graded and the result will account for two thirds of the final grade of the course.
During the second half, background lectures and discussions on the potential, limits, applications, and future development of life cycle management will be held.
A written exam (1.5 hours), the result of which accounts for one third of the final grade, will be held at the end of the course.
The module is interactive and encourages strong student participation.

Learning goals and qualifications
- Basic knowledge of quantitative systems analysis of human-environment systems, basics of material and energy flow analysis (1);
- Detailed knowledge about the state of the art, the software, and databases of life cycle assessment according to the standards ISO 14040 and 14044 (1,3,4);
- Basic knowledge of life cycle impact assessment methods (1, 2, 3);
- Soft skills: discussion, scientific writing skills, capacity for team work (2)
- At the end of the course, the successful participant will be able to conduct, interpret, document, and present life cycle assessment studies of products or technical installations using state-of-the-art tools and databases (1-6).


**Recommended reading**

LCA Textbook: http://www.lcatextbook.com/. Much of the basic material of the course will be based on this book.

OpenLCA tutorials (http://www.openlca.org/videos).


**Important:**

This course requires each participant to work on her/his own laptop with the openLCA software (http://www.openlca.org/) and the ecoinvent database installed. openLCA is freeware. A copy of the ecoinvent database will be provided at the beginning of the course.
Module number
95995

Module name
Research Design in Environmental Governance

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<th>Course of study</th>
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<th>Semester / Rotation</th>
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<tbody>
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<td>M.Sc. Environmental Governance</td>
<td>Elective</td>
<td>3rd/ Winter Term</td>
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<tr>
<th>Teaching methods</th>
<th>Prerequisites for attendance</th>
<th>Language</th>
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<tbody>
<tr>
<td>Lectures, research assignments</td>
<td>None</td>
<td>English</td>
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<tr>
<th>Type of examination (duration)</th>
<th>ECTS-LP (Workload)</th>
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<tbody>
<tr>
<td>Written assignments (poster); written exam (max. 90 min) – also re-examination</td>
<td>5 (150h, of this 55 attendance)</td>
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Module coordinator
Dr. Olga Malets, e-mail: olga.malets@envgov.uni-freiburg.de

Additional teachers involved
Prof. Dr. Heiner Schanz (University of Freiburg), Dr. Kimberley O’Sullivan (University of Otago; University of Freiburg), and guest lecturers

Syllabus
The overall goal of this module is to introduce the logic of social scientific inquiry in environmental governance and to offer students an opportunity to practice skills required for designing and conducting research projects, including a Master’s thesis project. Accordingly, in Week 1 is focused on the theory and logic of social research. Weeks 2 and 3 focus on developing a research proposal and a research poster. During the first week of the module, students study philosophical foundations of social research, discuss the logic of social inquiry, review types of research design and research methods, and analyze exemplary cases of social research in environmental governance. The first week’s class includes intensive reading, interactive lectures and guided seminars. At the end of this module part, students are required to take a written test. The goal of the second part of the module is to apply competences acquired during the first week. Students develop their own research project proposals and present them in the form of a research poster. This is not a master's thesis proposal, but it can be developed into one. We encourage students to elaborate and test their first ideas for a thesis project in this module. It is an opportunity to practice key elements of a thesis proposal, receive feedback on ideas and develop a basis for a 'real' thesis research proposal. Students develop their proposals in close cooperation with lecturers and receive feedback.

Learning goals and qualifications
In this module students learn to:

- distinguish between different philosophical perspectives underlying qualitative, quantitative and mixed methods methodologies in the social science research (2);
- identify and understand different social science research designs and research processes (1, 2);
- assess the applicability of qualitative and quantitative research methods to specific research problems and questions (4, 5);
- design research projects on the basis of appropriate research questions and hypotheses that contribute to an increase of knowledge in their field of study (6);
- elaborate research project proposals and research posters based on proposals (6).

Core readings
A list of relevant texts will be made available at the start of the course; obligatory readings (and part of the voluntary readings) will be made available online in electronic form. Preliminary readings:


Module number: 64084
Module name: Elective: Economics of Ecosystem Services and Biodiversity

Course of study:
- M.Sc. Environmental Sciences
- M.Sc. Forest Sciences
- M.Sc. Environmental Governance

Type of course:
Elective module

Semester / Rotation:
3rd / Winter Term

Teaching methods:
Lectures, discussions, homework, tutorial, group work, student presentations

Prerequisites for attendance:
- Intermediate economics level
- Environmental economics: see separate detailed specification
- Algebra and calculus: see separate detailed specification
- Willingness and capability for interdisciplinary work in economics
- Good commandment of English

Language:
English

Type of examination (duration):
Grading is based on: course participation (20%); homework problems (20%), presentation (30%), written final exam (30%)

ECTS-LP (Workload):
5 (150h, of this 55 attendance)

Module coordinator:
Prof. Dr. S. Baumgärtner, e-mail: stefan.baumgaertner@ere.uni-freiburg.de

Additional teachers involved:
-

Syllabus:
In this course, students will study biodiversity and ecosystem services from an economic perspective. Biodiversity is understood here as ‘the variability among living organisms from all sources ... and the ecological complexes of which they are part’ (United Nations Convention on Biodiversity 1992). Ecosystem services are “the benefits people obtain from ecosystems” (Millennium Ecosystem Assessment 2005). This includes provisioning services (e.g. the provision of food, fiber, fuels or clean drinking water), regulating services (e.g. climate regulation, erosion control, or the regulation of pests and diseases), and cultural services (e.g. aesthetic satisfaction, education, recreation, or spiritual fulfillment).

While biodiversity is an issue of biology and ecology in the first place, the economic perspective can add valuable insights into why we are currently losing biodiversity and ecosystem services at unusually high rates, why this is a problem that we should be concerned about, and what we can do in order to conserve and sustainably use biodiversity and ecosystem services in an efficient manner.

To this end, students in this course will learn advanced concepts and methods from environmental and resource economics, and integrate them in an interdisciplinary manner with concepts and methods from ecology, to gain an encompassing and methodologically sound economic understanding of biodiversity and ecosystem services.

Learning goals and qualifications:
After the course, students:
- know advanced theories, methods and empirical findings of economic environmental studies with respect to biodiversity and ecosystem services, and are able to reproduce them (1)
- are able to critically reflect upon the economic approach to analyze the natural environment as well as its preconditions, limitations, and are able to reproduce and explain this to others (2)
- are able to autonomously apply advanced theories and methods of economic environmental studies to smaller problems of biodiversity and ecosystem services (3)
- are able to analyze reciprocal correlations between economic and environmental variables systematically and on an advanced professional level (4)
Core readings

There is no single textbook for this course. References to books and journal articles for each chapter will be given in class. References to start with are:

TEEB – The Economics of Ecosystems and Biodiversity (www.teebweb.org):

References to books and journal articles for further reading will be given in class.