

## Medium-term syllabus MSD 2017 - spring semester 2024

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This medium-term syllabus serves all students as a tool to plan their studies. The adaptations are published regularly, usually simultaneously with the upload of the course directory of the University of Basel/once a semester.

In addition to the guidelines of the Master's Degree in Sustainable Development, the medium-term syllabus contains information regarding titles, teaching, format, credit points, frequency and in some cases also on admission requirements of specific classes. Please consider also the information whether a class is mandatory or not.

For details regarding learning objectives, content, timetable, allocated rooms, participation criteria, registration modalities of the courses and final assessment, please consult the [detailed course directory](#).

Content-related information to the three focus areas and modules are documented in the guidelines, in the study regulations and on the [website MSD](#). Also consider the "optimal course progression" plans (for full time and part time study available; see [downloads MSD 2017](#)).

**Shortcuts of the course formats** (alphabetical order, translation according to [glossary](#) of Unibas):

C: course; CL: core lecture (Kernvorlesung); Coll: colloquium; FT: field trip (Exkursion); I: internship (Praktikum); L: lecture; PC: practical course (Übung); Pro: project; S: seminar; Tut: tutorial.

**Further selected shortcuts** (translation according to [glossary](#) of Unibas): fall: fall semester; spring: spring semester;

LA: learning agreement; LC: learning contract; TA: teaching assignment;

MSE: Man-Society-Environment; head = Prof. Dr. Holm (natural sciences); SRG: Sustainability Research Group; interim head = PD Dr. Bornerman (social sciences); EnvEcon: Environmental Economics; head = Prof. Dr. Krysiak (economics).

**Color coding main topics**

● = dark blue = food, agriculture & consumption; ● = pink = governance; ● = brown = biodiversity; ● = light blue = energy.

## Curriculum (according to the three focus areas; see study regulations §7)

### Natural Sciences

- Complementary Knowledge modules (CK)
  - in Social Sciences (CK Soc) 12 CP
  - in Economics (CK Econ) 12 CP
- Interdisciplinary Research in Sustainability (IRS) 24 CP
- Core Competences in Natural Sciences (CC Nat) 15 CP
- Preparation Master's Thesis in Natural Sciences (PM Nat) 15 CP
- Master's Thesis Natural Sciences 30 CP
- Focal Areas in Sustainability Research module (FASR) 12 CP

### Social Sciences

- Complementary Knowledge modules (CK)
  - in Natural Sciences (CK Nat) 12 CP
  - in Economics (CK Econ) 12 CP
- Interdisciplinary Research in Sustainability (IRS) 24 CP
- Core Competences in Social Sciences (CC Soc) 15 CP
- Preparation Master's Thesis in Social Sciences (PM Soc) 15 CP
- Master's Thesis Social Sciences 30 CP
- Focal Areas in Sustainability Research module (FASR) 12 CP

### Economics

- Complementary Knowledge modules (CK)
  - in Natural Sciences (CK Nat) 12 CP
  - in Social Sciences (CK Soc) 12 CP
- Interdisciplinary Research in Sustainability (IRS) 24 CP
- Core Competences in Economics (CC Econ) 15 CP
- Preparation Master's Thesis in Economics (PM Econ) 15 CP
- Master's Thesis Economics 30 CP
- Focal Areas in Sustainability Research module (FASR) 12 CP

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Complementary Knowledge modules (CK)

**Complementary Knowledge in Natural Sciences (CK Nat) 12 KP**

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
41828: Perspectives of Natural Sciences on Sustainability ●●	P. Holm MSD-MSE	L + PC	3	Fall 23	Every fall	These classes are mandatory. A different choice is only allowed to students who have a) attended and accredited the same class(es) in their bachelor's degree; b) attended and accredited comparable class(es) in their bachelor's degree; c) a first degree in natural science (major or minor).  If a), b) or c) applies to you, other class(es) are to be taken. These are to be fixed in a learning agreement signed by Prof. P. Holm (template available as <a href="#">download</a> ).
20721: Ecosystems – Concepts, Principles and Processes ●	G. Erni Cassola MSD-MSE	L + PC	3	Fall 23	Every fall	
40076: Technical Basis of Generation, Distribution and Storage of Energy ●	R. Lordan-Perret MSD with TA	L + PC	3	Spring 24	Every spring	
36792: Terrestrial Ecosystem Ecology and Sustainable Landuse ●●	A. Kahmen Botany & Ecology	L	2	Spring 24	Every spring	
50260: Ecology and Evolution ●	J. Beck MSD with TA	L	1	Spring 23	Every spring	

**Complementary Knowledge in Social Sciences (CK Soc) 12 CP**

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
41829: Perspectives of Social Sciences on Sustainability ●●	B. Bornemann MSD-SRG	L + PC	3	Fall 23	Every fall	These classes are mandatory. A different choice is only allowed to students who have a) attended and accredited the same class(es) in their bachelor's degree; b) attended and accredited comparable class(es) in their bachelor's degree; c) a first degree in social science (major or minor).  If a), b) or c) applies to you, other class(es) are to be taken. These are to be fixed in a learning agreement signed by PD Dr. B. Bornemann. (template available as <a href="#">download</a> ).
14253: Environmental Ethics and Inter-generational Justice ●●	B. Schmitz MSD with TA	S	3	Fall 23	Every fall	
11513: Sustainability: A new Societal Paradigm? ●	<b>B. Bornemann</b> M. Christen MSD-SRG	L + PC	3	Spring 24	Every spring	
17403: Governance, Sustainable Development and Democracy ●●	B. Bornemann MSD	S	3	Spring 24	Every spring	

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### Complementary Knowledge in Economics (CK Econ) 12 CP ●●●●

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
48981: Intensive Introduction to Intermediate Economics ●	D. Illic/Econ	L	6	Fall 23	Every fall	These classes are mandatory. A different choice is only allowed to students who have a) attended and accredited the same class(es) in their bachelor's degree; b) attended and accredited comparable class(es) in their bachelor's degree; c) a first degree in economics (major or minor).
10160: Introduction to Environmental Economics ● (new title, formerly known: 10160: Environmental and Resource Economics, 6 CP)	<b>F. Krysiak</b> EnvEcon-MSD Ch. Nolde/Econ	L+ PC	3	Spring 24	Every spring	If a), b) or c) applies to you, other class(es) are to be taken. These are to be fixed in a learning agreement signed by Prof. F. Krysiak (template available as <a href="#">download</a> ).
71004: Resource Economics ● (new! Formerly part of 10160: Environmental and Resource Economics, 6 CP)	<b>F. Krysiak</b> EnvEcon-MSD Hochuli/Econ	L+ PC	3	Spring 24	Every spring	71004 not eligible if you have done 10160 in a former semester.

### Interdisciplinary Research in Sustainability (IRS) 24 CP

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
48953: Sustainable Development: Introduction into Topics and Approaches ●●●	P. Holm/MSE, P. Burger, <b>F. Krysiak/</b> Env Econ - all MSD	CL	3	Fall 23	Every fall	Mandatory. Please consider the special passing requirement for core lectures according to the detailed course directory.
48954: Tools and Methods for Interdisciplinary Research	M. Christen MSD with TA-SRG	CL	3	Fall 23	Every fall	Mandatory. Please consider the special passing requirement for core lectures according to the detailed course directory.

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## Selection of courses in disciplinary methods

According to the MSD study regulations, students have to take **three** courses on **disciplinary methods** (3 x 3 CP). These courses provide insights into the methods of the three main and related MSD disciplines that are particularly relevant to the degree program.

In spring semester 2023 the offer will be extended by **alternative method courses** of a higher level. NOTE: These are **only eligible for students with preliminary knowledge and first degrees in this field**. I.e., **by default**, students enroll in the officially published courses (**48955, 60867 or 43494**) and the credit points are automatically awarded for this module.

Since the **alternative courses** are only listed in the medium-term syllabus but not published in the online course directory for this module, students must complete a **learning agreement in advance** (template see downloads MSD 2017) for the recognition of credit points. Prior to that, they get in touch with the responsible (see below) by email:

Prof. Dr. P. Holm: Methods in natural sciences; PD Dr. Basil Bornemann (ad interim): Methods in social sciences; Prof. Dr. Frank Krysiak: Methods in economics.

<p>Methods in <b>natural sciences</b> by default:</p> <p>48955: Tools and Methods of Natural Sciences Research</p>	P. Carillo Barragán/MSE-MSD	S	3	Spring 24	Every spring	<p>Students have to enroll for the basic lecture 48955. Only students with preliminary knowledge and first degree in this field are allowed to take one of the listed alternatives. For details see information on the top of this module.</p> <p>Alternative eligible only for students with preliminary knowledge of 48955. It's mandatory to complete a learning agreement in advance.</p> <p>53558: requests an additional CP via LC (use the tool of LC in MOA).</p>
<p>Alternative for students with preliminary knowledge and disciplinary degree:</p> <ul style="list-style-type: none"> <li>57405: Analytical chemistry of the atmosphere – quantifying climate change</li> <li>53558: Biotic Indicators and Palaeoecological Reconstruction</li> </ul>	D. Häussinger et al./Chem.	L	3	Spring 24	Irregular	
<p>Methods in <b>social sciences</b> by default:</p> <p>60867: Qualitative Research in Sustainability Science</p>	A. Sohre/MSD	C	3	Spring 24	Every spring	<p>Students have to enroll for the basic course 60867. Only students with preliminary knowledge and first degree in this field are allowed to take one of the listed alternatives. For details see information on the top of this module.</p> <p>Alternative eligible only for students with preliminary knowledge of 60867. It's mandatory to complete a learning agreement in advance.</p>
<p>Alternative for students with preliminary knowledge and disciplinary degree, i.e. 60867 would be a repetition:</p> <ul style="list-style-type: none"> <li>50901: Qualitative Data Analysis: Analyzing Text and Talk</li> </ul>	M. Bergman/Soc	S	3	Spring 24	Irregular	

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Methods in <b>economics</b> , by default:  43494: Methods in Economics: Survey Research Methodology	D. Auer/Econ	Coll	3	Spring 24	Every spring	Students have to enroll for the basic course 43494. Only students with preliminary knowledge and first degree in this field are allowed to take one of the listed alternatives. For details see information on the top of this module.  Alternatives eligible only for students with preliminary knowledge of 43494. It's mandatory to complete a learning agreement in advance.
Alternative for students with preliminary knowledge and disciplinary degree: <ul style="list-style-type: none"> <li>62659: Numerical Methods and Optimization</li> <li>16036: Microeconometrics and Statistical Learning</li> </ul>	H. Weigt/Econ K. Kleiber/Econ	L L	3 3	Spring 24 Spring 24	Every spring Every spring	
50729: Training for Sustainability Research <span style="color: #FF69B4;">●</span> <span style="color: #8B4513;">●</span> <span style="color: #ADD8E6;">●</span>	Ph. Hirsch/MSE, <b>F. Krysiak</b> /WW M. Christen & I. Schubert (both TA MSD-SRG)	Pro	6	Spring 24	Every spring	Mandatory.
Master colloquium A: 50399: Introduction to Ongoing MSD Master's Thesis	P. Holm/MSE, B. Bornemann /SRG, F. Krysiak/Env Ec - all MSD	Coll	1	Spring 24	Every semester	Mandatory. Enrollment of the colloquia A, B and C according to this listing. For details regarding participation criteria and assessment see detailed online course directory.
Master colloquium B: 52317: Presentation of Concepts of MSD Master's Thesis		Coll	1	Spring 24	Every semester	
Master colloquium C: 53982: Presentation of Results of MSD Master's Thesis		Coll	1	Spring 24	Every semester	

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## Core Competences module (CC)

### Core Competences in Natural Sciences (CC Nat) 15 CP

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
62246: Sustainability in Practice ●●●●	<b>P. Holm/MSE,</b> F. Krysiak/ Env Econ - all MSD	C	3	Fall 23	Irregular	The TC MSD strongly recommends to accredit this course for the FASR module. Special entry requirements & course application.
49077: Global Change Resources ●	M. Andres MSD with TA	L + PC	3	Fall 23	Every fall	Mandatory.
50264: Global Change Ecology ●●	S. Abel MSE-MSD	L + PC	3	Spring 24	Every spring	Mandatory.
41821: Ecological Sustainability Aspects of Climate Change ●●	D. Schindler MSD with TA	L + PC	3	Fall 23	Irregular	For choice.
25635: Transformation of Energy Systems to Renewable Energy Flows...●●●	R. Rechsteiner Geosciences	L + PC	2	Fall 23	Every 2nd fall	For choice.
23839: Introduction to Research Projects of Environmental Geosciences and Biogeochemistry (new title!)	<b>Ch. Alewell</b> et al. Geosciences	L + PC	3	Spring 24	Every spring	For choice. Takes place as a bloc course. Former title: Pedosphere and Hydrosphere - Biogeochemistry and Modelling of Element and Sediment Cycling
24172: Marine Biological Considerations at the Strait of Gibraltar ●●	<b>P. Holm,</b> S. Abel, MSD-MSE	FT	3	Fall 24 02.09.24- 09.09.24	Last time	For choice. Those who have attended the field trip in a former semester and have earned CP cannot register again. Start: 02.09.24 late afternoon; end: 09.09.23 (last day & departure)
24129: From Anthropogenic Landscapes to Wilderness Management ●	<b>Ch. Alewell,</b> A. Lang Geosciences	FT	3	Fall 24 5.-14.09.24 Prep. day: 02.09.24	Irregular	For choice. Field trip takes place as a bloc course: 05.-14.09.23, details see course directory.
12127: From Anthropogenic Landscapes to Wilderness Management ●		P	3	Fall 24	Irregular	For choice. Only in combination with 24129.

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60310: Introduction to organic farming systems ●●	E. Bünemann-König, with TA	L + PC	3	Spring 24	Irregular	For choice.
23832: Oceanography: Regional Oceanography & Marine Ecosystems ●	M. Lehmann Geosciences	L	2	Spring 24	Every spring	For choice.
27336: Pflanzenschutz und nachhaltiger Pflanzenbau ●●	<b>D. Klauser</b> , P. Flury Integr. Biology	L	1	Spring 24	Every spring	For choice.

### Core Competences in Social Sciences (CC Soc) 15 CP ●●●●

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
62246: Sustainability in Practice ●●●●	<b>P. Holm</b> /MSE, F. Krysiak/ Env Econ - all MSD	C	3	Fall 23	Irregular	The TC MSD strongly recommends to accredit this course for the FASR module. Special entry requirements & course application.
14253: Environmental Ethics and Inter-generational Justice ●●	B. Schmitz MSD with TA	S	3	Fall 23	Every fall	Mandatory.
11513: Sustainability: A New Societal Paradigm? ●	<b>B. Bornemann</b> M. Christen MSD-SRG	L + PC	3	Spring 24	Every spring	Mandatory.
41822: Governance of Energy Transition ●●	A. Sohre MSD- SRG	S	3	Fall 23	Every fall	For choice
62624: The Climate Movement: Actors and Strategies in Governance Contexts ●●	B. Bornemann, Sociology	S	3	Fall 22	irregular	For choice.
68995: The Sustainabilization of the State: Theoretical Perspectives and Empirical Evidence across Countries ●	B. Bornemann, Sociology	S	3	Fall 23	Once	
66155: Innovations for Sustainability	M. Simoens, Sociology	S	3	Fall 23	Once	
57243: Quality of Life and Sustainability: Theoretical and Empirical Approaches	M. Christen, <b>A. Hearn</b> , SRG - with TA MSD	S	3	Fall 23	Once	

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17403: Governance, Sustainable Development and Democracy ●●	B. Bornemann MSD	S	3	Spring 24	Every spring	
43667: Changing Individual Energy Behaviour - Approaches & Strategies ●●	I. Schubert MSD-SRG	S	3	Spring 24	Every spring	
67882: Positive Energy Districts: A New Way to Realize a just Energy Transition? ●●	<b>A. Hearn</b> , D. Mihailva, both SRG with TA MSD	S	3	Spring 23	Once	
70816: Sustainability Governance in International Value Chains ●	J. Grabs MSD-SRG	S	3	Spring 24	First time	Bloc seminar in June 24. Details see online course directory
71012: Sozial-ökologische Transformationen: theoretische Konzepte, empirische Befunde und politische Gestaltungsansätze	NN/Sociology	S	3	Spring 24	Once	

### Core Competences in Economics (CC Econ) 15 CP

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
62246: Sustainability in Practice ●●●●	<b>P. Holm/MSE</b> , F. Krysiak/ Env Econ - all MSD	C	3	Fall 23	Irregular	The TC MSD strongly recommends to accredit this course for the FASR module. Special entry requirements & course application.
12036: Econometrics	K. Schmidheiny et. al./ Econ	L	6	Fall 23	Every fall	No mandatory courses for this module. The choice of classes for this module is to be done out of this list. Please consider the detailed course directory for more information regarding participation requirements etc.
48409: Corporate Responsibility ●	G. von Schnurbein/Econ	Coll	3	Fall 23	Every fall	
41904: Industrial Organization	A. Gizatullina Econ	L	3	Fall 23	Every fall	
62651: Theory of the Firm	A. Gizatullina Econ	L	3	Fall 23	Every fall	
41957: Advanced Econometrics	K. Schmidheiny Econ	L	3	Fall 23	Every fall	

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10639: Consumer Behaviour: Theoretical Foundations	M. Brendl/Econ	Coll	3	Fall 23	Every fall
34505: The Rise of International Environmental Risks: Corporate and Government Strategies (new title) ●●●●	J. Wargo/Econ	L	3	Fall 23 (Summer School)	Every fall
43030: Public Opinion and Science Communication ●●	A. Kachi/Econ	L	3	Fall 23	Every fall
62643: Consumer Behavior: Marketplace Applications	J. Laran/Econ	C	3	Fall 23	Every fall
62650: Behavioral Science	M. Brendl/Econ	L	3	Fall 23	Every fall
56949: The Economics of Climate Change ●●	R. Lordan-Perret/Econ	Coll	3	Spring 23	
53713: Environmental and Energy Economics ●●	F. Krysiak EnvEcon-MSD	S	6	Fall 23	Every fall
65937: Advanced Microeconomics	G. Nöldeke Econ	L	6	Fall 23	Every fall
68986 Vorlesung: Sustainable Finance	Y. Heo/Econ	L	3	Fall 23	First time
10616: Applied Machine Learning	D. Maringer Econ	L	3	Spring 24	Every spring
10625: Advanced International Trade and Business	R. Weder Econ	L	6	Spring 23	
17691: International Trade, Resources and the Environment ●	M. S. Taylor Econ	L	3	Spring 24	Every spring
14255: Environmental Economics ●●	F. Krysiak MSD-EnvEcon	L	3	Spring 24	Every spring
43498: Psychological Theory in Consumer Behavior	M. Brendl/Econ	Coll	6	Spring 24	Every spring
16036: Microeconometrics and Statistical Learning	Ch. Kleiber Econ	L	3	Spring 24	Every spring
50877: Economics of Global Health	G. Fink/Econ	L	3	Spring 24	Every spring
62655: Energy Economics ●	H. Weigt/Econ	L	3	Spring 24	Every spring

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60335: Introduction to Corporate Responsibility ●	G. von Schnurbein/Econ	L	3	Spring 24	Every spring	
65943: Advanced Macroeconomics	S. Lein/Econ	L	6	Spring 24	First time	
60336: Population & Economic Growth	R. Stelter/Econ	L	3	Spring 24	Every spring	
63593: Methods in Policy Impact Assessment ●●	<b>R. Delzeit</b> R. Argueyrolles Geosciences	L + PC	3	Spring 24	Every spring	
67432: Sustainability in Banking and Finance	J. Henn et al. econ	S	6	Spring 24	First time	Seminar for preparation MT.

### Preparation Master's Thesis module (PM)

**Preparation Master's Thesis in Natural Sciences (PM Nat) 15 CP** *The classes of this module are not published in the course directory but must be fixed and confirmed with a learning agreement (use MSD-form for this purpose, available on our [website](#)).*

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
49078: Research Design Master's Thesis	P. Holm/MSE, - I. Schubert, SRG, <b>F. Krysiak</b> / Env Econ - all MSD	C	3	Spring 24	Every semester	Mandatory.
70815: MSD Life Science	<b>P. Holm</b> , S. Abel MSE-MSD	Coll	1	Spring 24	Every semester	Mandatory for all students who write the master's thesis within the focus area of natural science – to be transferred to this module (published in the Core Competences in Natural Science module). Students who register for this colloquium more than once, may transfer the additional credits to the Focal Areas in Sustainability Research module.

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Independent Research Work (IRW)	P. Holm et al. MSE- MSD	I	6 or 11	On agreement	Mandatory for all students who write the master's thesis within the focus area of natural science. The performance has to be fixed and confirmed in a <b>learning contract</b> in advance. It either contains 6 CP (if you write an additional seminar paper of 5 CP) or 11 CP (without seminar paper). Use template of LC from MOnA.
Seminar Paper	P. Holm et al. MSE- MSD		5	On agreement	Only if students opt for the IRW of 6 CP. The performance has to be fixed and confirmed in a learning contract in advance. Use template of LC from MOnA.

### Preparation Master's Thesis in Social Sciences (PM Soc) 15 CP

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
49078: Research Design Master's Thesis	P. Holm/MSE, - I. Schubert, SRG, <b>F. Krysiak</b> / Env Econ - all MSD	C	3	Spring 24	Every semester	Mandatory.
57245: Sustainability Science Research (social dimension)	P. Burger SRG-MSD	Coll	1	Spring 24	Every semester	Mandatory.
50267: Current Topics in Social Science Based on Sustainability Research	A. Sohre SRG-MSD	S	3	Spring 24	Every spring	Mandatory.
Methods: 46737: Experimental research methods in social sciences	I. Schubert SRG-MSD	S	3	Fall 23	Irregular	For this module students have to attend a method course of min. 3 CP. The choice is to be done out of this list.
Methods: 31938: Qualitative Data Analysis in African Studies	E. Macamo Afr. Studies	S	3	Fall 23	Every fall	
Methods: 33426: Quantitative Data Analysis in African Studies	E. Macamo Afr. Studies	S	3	Spring 24	Every spring	
Methods: 48555: Research Methods in Social and Political Science (new title)	D. Höhmann Politic. Sciences	S	3	Fall 23	Every fall	
Methods: 49855: Research Methods in Social and Political Science (new title)	D. Höhmann Politic. Sciences	Tut	2	Fall 23	Every fall	

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Methods: 63537: Living Labs and Participative Research for Sustainability Transitions ●	A. Sohre I. Schubert SRG-MSD	S	3	Fall 23	Irregular	
Seminar Paper			5	On agreement.		Mandatory. Details regarding modalities see fact sheet master's graduation.

### Preparation Master's Thesis in Economics (PM Econ) 15 CP

No.: class title	Lecturer / subject area	Format	CP	Semester	Frequency	Notes concerning the registration of the class for the specific module
49078: Research Design Master's Thesis	P. Holm/MSE, - I. Schubert, SRG, <b>F. Krysiak/</b> Env Econ - all MSD	C	3	Spring 24	Every semester	Mandatory.
14255: Environmental Economics ●●	F. Krysiak Econ-MSD	L	3	Spring 24	Every spring	No other mandatory courses for this module. The choice of classes for this module is to be done out of this list. Please consider the detailed course directory for more information regarding participation requirements etc.
12036: Econometrics	K. Schmidheiny Econ	L	6	Fall 23	Every fall	
29002: Electricity Markets ●	H. Weigt/Econ	L	3	Fall 23	Every fall	
68984 Advanced International Macroeconomics	A. Müller/Econ	L	3	Fall 23	First time	
31950: Corporate Governance	A. Kind/Econ	L	3	Fall 23	Every fall	
17691: International Trade, Resources and the Environment ●	M. S. Taylor Econ	L	3	Spring 23	Every Spring	
47275: Empirical Research in Public Economics	B. Hintermann Econ	S	6	Spring 23	Every Spring	
16036: Microeconometrics and Statistical Learning	Ch. Kleiber Econ	L	3	Spring 24	Every spring	
62659: Numerical Methods and Optimization	H. Weigt Econ	L	3	Spring 24	Every spring	

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63593: Methods in Policy Impact Assessment ●●	<b>R. Delzeit</b> R. Argueyrolles Geosciences	L + PC	3	Spring 24	Every spring	
10616: Applied Machine Learning	D. Maringer Econ	L	3	Spring 24	Every spring	
31952: Microeconometrics: Panel Data	K. Schmidheiny/Econ	L	3	Spring 24	Every spring	
32934: Optimization and AI	D. Maringer Econ	L	3	Spring 24	Every spring	

### Focal Areas in Sustainability Research module (FASR) 12 CP **TO BE MODIFIED for SPRING 2024**

**List of recommended courses: subject to modifications. For more offers see [online detailed course directory](#)**

There is no notification of courses for this module in the detailed course directory (published each semester). The students make their choice by themselves. The list below serves as a suggestion for this module and covers one part of possible classes. We also recommend to review the course directories of other master's programs for lectures related to sustainable development (e.g. Changing Societies, Biology, Sociology, Economics, etc).

When choosing other classes, two criteria have to be considered:

1. The class has to be offered on master level module by the program in charge (see details in the course directory, section module and section assessment/last paragraph: offered by).
2. The class has to have a clear connection to sustainable development.

If you come across a course which is not listed and you would like to know whether it will be recognized or not you can send an email to [coordination-msd@unibas.ch](mailto:coordination-msd@unibas.ch). Please list the course with the entire title and add the link to relevant entry of the detailed course directory.

**The courses have to be fixed in a learning agreement.** Fact sheet and template are available on the website MSD/see downloads MSD 2017: <https://www.msd.unibas.ch/en/services/downloads/msd-2017/>

**MAKE SURE** you fulfill the **participation requirements** for the courses of your choice. Also, consider the details in the online course directory regarding **course application** and **enrollment**.

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## Natural Sciences

*NOTE: make sure, you fulfill any participation criteria. Especially, if you like to take a class in natural sciences and you have chosen the focus area in social sciences or in economics, you must have completed the “Complementary Knowledge in Natural Sciences” module (at least 8 out of 12 CP).*

No.: class title	Lecturer	Format	CP	Frequency	Notes concerning the registration of the class for the specific module
50264: Global Change Ecology ●●	S. Abel	L + PC	3	Every spring	Offered by the MSD. Special course inscriptions and entry requirements. Students with focus area in natural sciences can't transfer the credits to the FASR module as these are two mandatory classes for them (lectures 50265 & 49077).
49077: Global Change Resources ●	M. Andres	L + PC	3	Every fall	
41828: Perspectives of Natural Sciences on Sustainability ●●	P. Holm	L + PC	3	Every fall	Offered by the MSD/TQNE: only for students without academic background in natural sciences and if they don't have to attend it for the “Complementary Knowledge in Natural Science” module.
41821: Ecological Sustainability Aspects of Climate Change ●●	D. Schindler	L + PC	3	Every fall	Offered by the MSD. Special course inscription and entry requirements.
62246: Sustainability in Practice ●●●●	<b>P. Holm/MSE,</b> F. Krysiak/ Env Econ - all MSD	C	3	Fall	Irregular.
41280: Tree and Forest Ecology ●	<b>G. Hoch</b> M. Arend	L	2	Every fall	
23138: Sustainable Plant Systems ●●	K. Schläppi	L	2	Every fall	
22696: Measurements and Policy Interactions in Climate Change and Air Pollution ●●	S. Reimann	L	3	Every fall	
11718: Current Ecological and Health Issues in Africa	G. Fink, <b>J. Utzinger</b>	S	2	Every fall	
34578: Invasionsbiologie ●	H.-P. Rusterholz	L	2	Every fall	
41280: Tree and Forest Ecology ●	G. Hoch et al.	L	2	Every fall	

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24129: From Anthropogenic Landscapes to Wilderness Management ●	<b>Ch. Alewell,</b> A. Lang Geosciences	FT	3	Every 2nd fall sem.	Only in combination with 24129. Fall 24: field trip: 05.-14.09.24 Prep. day: 02.09.24
12127: From Anthropogenic Landscapes to Wilderness Management ●	<b>C. Alewell,</b> A. Lang	P	3	Every 2nd fall sem.	
50260: Ecology and Evolution ●	J. Beck	L	1	Every spring	Offered by the MSD. Students with focus area in social sciences and economics can't transfer the credits to the FASR module as the three courses are mandatory for the "Complementary Knowledge in Natural Sciences" module.
40076: Technical Basis of Generation, Distribution and Storage of Energy ●	R. Lordan-Perret	L + PC	3	Every spring	
36792: Terrestrial Ecosystem Ecology and Sustainable Landuse ●●	A. Kahmen	L	2	NOT in spring 23	
24172: Marine Biological Considerations at the Strait of Gibraltar ●	<b>P. Holm,</b> S. Abel	FT	3	Fall 24	Offered by the MSD. Last time. Start: 02.09.24 late afternoon; end: 09.09.23 (last day & departure)
33155: Marine Biogeochemistry and Biology in Elba, Italy ●	<b>M. Lehmann</b> et al.	FT	4	Every 2nd spring semester	Special registration procedure; see online course directory
60310: Introduction to organic farming systems ●●	<b>E. Bünemann-König</b>	L + PC	3	irregular	Co-offered by the MSD.
23832: Oceanography: Regional Oceanography & Marine Ecosystem ●	M. Lehmann	L + PC	2	Every spring	
27336: Pflanzenschutz und nachhaltiger Pflanzenbau ●●	<b>D. Klauser,</b> P. Flury	L	1	Every spring	
20045: Alpine Plant Ecology ●	E. Hiltbrunner et al.	FT	3	Every spring	Fieldtrip in July 24. Details see online course directory
63591: The Interplay of Agriculture, Environmental and Energy Policy ●●●	<b>R. Delzeit</b> R. Arguey-	L	3	Every fall	Formerly during spring semester
14630: Biological and Integrated Pest Management ●●	R. Peveling	L + PC	2	Every spring	
48622: Climate Change and Health	M. Ragetti	L + PC	1	Every spring	
69063: Current Research in Global Change Ecology	S. Rumpf	Research Seminar	1	Every semester	Research seminar for students with an interest in writing a master's thesis in the field of global change ecology.

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## Social Sciences

*NOTE: make sure, you fulfill any participation criteria. Especially, if you like to take a class in social sciences and you have chosen the focus area in natural sciences or in economics, you must have completed the “Complementary Knowledge in Social Sciences” module (at least 8 out of 12 CP)*

No.: class title	Lecturer	Format	CP	Frequency	Remarks (for details see online course directory)
41829: Perspectives of Social Sciences on Sustainability ●●	B. Bornemann	L + PC	3	Every fall	Offered by the MSD/TQNE: only for students without academic background in social sciences and if they don't have to attend it for the “Complementary Knowledge in Natural Science” module.
62246: Sustainability in Practice ●●●●	<b>P. Holm/MSE</b> , F. Krysiak/ Env Econ - all MSD	C	3	Fall	Irregular.
41822: Governance of Energy Transitions ●●	A. Sohre	S	3	Irregular	
43667: Changing Individual Energy Behaviour – Approaches & Strategies ●●	I. Schubert	S	3	Every spring	
17403: Governance, Sustainable Development and Democracy ●●	B. Bornemann MSD-SRG	S	3	Every spring	Offered by the MSD. Special course inscription. Students with focus area in natural sciences and economics can't transfer the credits to the FASR module.
50267: Current Topics in Social Science Based Sustainability Research	A. Sohre	S	3	Every spring	Offered by the MSD. Special course inscription. Students with focus area in social sciences can't transfer the credits to the FASR module.
68999: Basel Sustainability Forum: Transforming Food Production and Con-	M. Bergman et al.	L	2	Fall 23	Once. M. Bergman offers similar classes almost every semester.
67896: Conflicts and Controversies in the Water-Energy-Food Nexus ●●	O. Ejderyan	S	3	Spring 23	Once
67882: Positive Energy Districts: A New Way to Realize a just Energy Transition? ●●	<b>A. Hearn</b> , D. Mihailva,	S	3	Spring 23	Once.
69010: Social Research on Sustainability: Approaches, Methods, and Applica-	M. Bergman	PC	3	Fall 23	Once
66155: Innovations for Sustainability	M. Simoens	S	3	Fall 23	Once

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57243: Quality of Life and Sustainability: Theoretical and Empirical Approaches	M. Christen, A. Hearn	S	3	Fall 23	Once
68995: The Sustainabilization of the State: Theoretical Perspectives and Empirical Evidence across Countries ●	B. Bornemann	S	3	Fall 23	Once
70816: Sustainability Governance in International Value Chains ●	J. Grabs	S	3	Spring 24	First time. Bloc seminar in June 24. Details see online course directory
71012: Sozial-ökologische Transformationen: theoretische Konzepte, empirische Befunde und politische Gestaltungsansätze	B. Bornemann	S	3	Spring 24	Once
71251: Urban Afterlives of Resource Extraction Landscapes	E. Sewordor	S	3	Spring 24	Once
67545: Alternative Economies and Their Societal Implications	M. Simoens	S	3	Spring 24	Irregular
72276: Sustainable Eucor Cities? Exploring Your City Through the Lens of the Sustainable Development Goals.	M. Frick	S	3	Spring 24	Once. Bloc seminar in February 24. Details see online course directory

## Economics

*NOTE: make sure, you fulfill any participation criteria. Especially, if you like to take a class in economics and you have chosen the focus area in natural sciences or in social sciences, then you must have completed the "Complementary Knowledge in Economics" module (at least 8 out of 12 CP).*

No.: class title	Lecturer	Format	CP	Frequency	Remarks (for details see online course directory)
14255: Environmental Economics ●●	F. Krysiak	L	3	Every fspring	
43030: Public Opinion and Science Communication ●●	A. Kachi	L	3	Every fall	
29002: Electricity Markets ●	H. Weigt	L	3	Every fall	
31954: International Economics	T. Erhardt, C. Hefeker	S	6	Every fall	

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34505: The Rise of International Environmental Risks: Corporate and Government Strategies (new title) ●●●●	J. Wargo	L	3	Every fall	Summer school (August). For details see online course directory.
10639: Consumer Behaviour: Theoretical Foundations	M. Brendl	Coll	3	Every fall	
56949: The Economics of Climate Change ●●	R. Lordan-Perret	Coll	3	Every fall	
62246: Sustainability in Practice ●●●●	<b>P. Holm/MSE,</b> F. Krysiak/ Env Econ - all MSD	C	3	Fall	Irregular.
17691: International Trade, Resources and the Environment ●	M. Scott Taylor	L	3	Every spring	
43700: Perspectives of Economics on Sustainability ●	V. Calenbuhr	L + PC	3	Every spring	Offered by the MSD/program "Pathways to Sustainability" (TQNE): only for students without academic background in economics.
50877: Economics of Global Health	G. Fink	L	3	Every spring	
53713: Environmental and Energy Economics ●●	F. Krysiak	S	6	Every fall	NOTE: Special participation requirements and application process according to information in the detailed course directory.
60335: Introduction to Corporate Responsibility ●	G. von Schnurbein	L	3	Every spring	
62655: Energy Economics ●	H. Weigt/Econ	L	3	Every spring	

### Other Faculties/interdisciplinary courses

*NOTE: make sure, you fulfill any participation criteria. For details see detailed course directory.*

No.: class title	Lecturer	Format	CP	Frequency	Remarks (for details see online course directory)
43701: Interdisciplinary Approach to Sustainability ●	J. Godemann	S	3	Every spring	Offered by the MSD/program "Pathways to Sustainability" (TQNE): Special course application. Bloc course!
20580: Umweltrecht	D. Turnherr Keller	L	6	Every spring	Not in spring 24

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69397: Internationales Umwelt-, Klima- und Nachhaltigkeitsrecht	A. Müller	L	6	irregular	Not in spring 24
71110: Künstliche Intelligenz und Nachhaltigkeit	V. Chiquet	S	3	Spring 24	Once
70903: Ethik in der Klimakrise. Ausgewählte Themen und Texte	Ch. Rehmann-Sutter	S	2	Spring 24	Once. Bloc days during the semester. Details see online course directory
71257: Zusammen, aber wie? Wirtschaft und Verantwortung in einer sozialpolitischen Welt	M. Hoenen	S	3	Spring 24	Once. Bloc seminar in February 24. Details see online course directory
67454: Beiträge der Psychologie zu einer nachhaltigen Zukunft	U. Hahnel et al.	S	2	Every spring	

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