**Umweltökonomie & -politik**
*Environmental Economy & Politics*

**Relevance for ResEngin curriculum**
compulsory elective

**Administration**
Inst. für Wirtschaftspol. & -forschung, KIT

**Contact**
rainer.walz@isi.fraunhofer.de

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**Term(s) offered**
2nd (Summer Apr–Sept) + 3rd (Winter Oct–Mar)

**Duration | Cycle**
2 terms; every year

**Language of instruction**
German

**Prerequisites**
Bachelor, German language proficiency at DSH level

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**Module coordinator**
WALZ, PD Dr.rer.pol. Rainer; FhG-ISI
[Modulverantwortlicher]

**Learning outcomes**
Description see p. 2.

**Literature / Course materials**
Reference list see p. 3.

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**Basis for module(s)**
not applicable

**Intersection with module(s)**
M 7 Integrated Projects

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**Lecture courses**

<table>
<thead>
<tr>
<th>Lecture courses</th>
<th>Contact hours</th>
<th>Credits</th>
<th>WCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>25548 Umwelt- &amp; Ressourcenpolitik (lecture, exercises)</td>
<td>21.0 h</td>
<td>2.0 CP</td>
<td>1+1 WCH</td>
</tr>
<tr>
<td>25547 Umweltökonomie &amp; Nachhaltigkeit (lecture, exercises)</td>
<td>31.5 h</td>
<td>3.0 CP</td>
<td>1+1 WCH</td>
</tr>
<tr>
<td><strong>SUM</strong></td>
<td><strong>150 h</strong></td>
<td><strong>5.0 CP</strong></td>
<td><strong>4 WCH</strong></td>
</tr>
</tbody>
</table>

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**Workload specification**
(30 work hours → 1 CP acc. to ECTS)
5 x 30 h 150 h

**Lecture Phase:**
Contact hours
Self instruction hours 31.5 h
Exercises 21.0 h
Exam preparation 31.5 h

**Exam Phase:**
Self instruction hours 45.0 h

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**Module examination(s)**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Scope</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>„Umweltpolitik“ oral</td>
<td>30 min</td>
<td>2.0/3.0 CP</td>
</tr>
<tr>
<td>„Umweltökonomie“ written</td>
<td>60 min</td>
<td>3.0/5.0 CP</td>
</tr>
</tbody>
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**Lecturers**

- WALZ, PD Dr.rer.pol. Rainer; FhG-ISI

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**Individual lecture courses**

Descriptions + Recommended background knowledge see pp. 4.
Module T4d: “Environmental Economy & Politics” (cont.)

Module topic
This module aims at demonstrating the rationale of applying specific policy instruments and the logic of the political processes in environmental and infrastructure policies. Various interpretation approaches and operationalization modes of the sustainable development concept and the role of technology.

Learning outcomes

Disciplinary knowledge
- **concepts, theories & definitions**
  Neoclassical environmental economics; political economy; systems of innovation
  Sustainability concept in politics and economics.
- **subject matter (factual data, examples)**
  Empirical case studies; actors and instruments of environmental policies; the political economy of environmental and infrastructure politics; overview of traditional environmental policies.
  Operationalizing and measuring sustainability; technological learning and the relationship of technology and economic growth with sustainability; macroeconomic and innovation effects of sustainability policies.
- **methods & procedures**
  New approaches of sustainable infrastructure policies and regulation.
  Strategic sustainability assessment.

Professional skills
- Assessment of policies and regulations.
- Analysis of various interpretations of social science concepts, critical review and assessment of empirical results.

Personal competence
- Ability to read and analyze relevant academic papers.
Module T4d: “Environmental Economy & Politics” (cont.)

**Literature/ Course material**


**Lecture notes**
Course

Umwelt- und Ressourcenpolitik
(Environmental & Resources Policies)

<table>
<thead>
<tr>
<th>KIT lecture ID</th>
<th>25548</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relevance</strong></td>
<td>compulsory elective</td>
</tr>
<tr>
<td><strong>Prerequisites</strong></td>
<td>Bachelor, German proficiency (DSH level)</td>
</tr>
<tr>
<td><strong>Term(s)</strong></td>
<td>2nd term (summer)</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>German</td>
</tr>
<tr>
<td><strong>Training mode</strong></td>
<td>Lecture, 1 WCH, Exercise, 1 WCH</td>
</tr>
<tr>
<td><strong>Workload</strong></td>
<td>2.0 CP ⇒ 60.0 h</td>
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</tbody>
</table>

**Workload specification**

<table>
<thead>
<tr>
<th><strong>LECTURE PHASE</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Contact</td>
<td>10.5 h</td>
</tr>
<tr>
<td>Self instruction</td>
<td>10.5 h</td>
</tr>
<tr>
<td>Exercises</td>
<td>10.5 h</td>
</tr>
<tr>
<td>Exam preparation</td>
<td>10.5 h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EXAM PHASE</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Self-instruction</td>
<td>18.0 h</td>
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</tbody>
</table>

**Contact**

rainer.walz@isi.fraunhofer.de

**Lecturer(s)**

WALZ, PD Dr. rer. pol. Rainer; FhG ISI

**Course topic**

The rationale of applying specific policy instruments and the logic of the political processes in environmental and infrastructure policies. The choice of the policy instrument and the experiences in regulating infrastructure systems are important aspects to prevent developing countries from the pitfalls of traditional environmental and infrastructure policies.

**Recommended background knowledge**

Fundamentals of economics.

**Disciplinary knowledge**

- **concepts, theories & definitions**
  - neoclassical environmental economics; political economy; systems of innovation.
- **subject matter (factual data, examples)**
  - empirical case studies; actors and instruments of environmental policies; the political economy of environmental and infrastructure politics; overview of traditional environmental policies.
- **methods & procedures**
  - new approaches of sustainable infrastructure policies and regulation.

**Professional skills**

Assessment of policies and regulations.

**Personal competence**

Ability to read and analyse literature.

**Assessment specification**

written ---
oral 30 min = partial module exam "Umweltpolitik"
other ---

* WCH = Weekly Contact Hours
Course

**Umweltökonomie und Nachhaltigkeit**
(Environmental Economics and Sustainability)

### Workload specification

<table>
<thead>
<tr>
<th>Lecturer(s)</th>
<th>WALZ, PD Dr. rer. pol. Rainer; FhG ISI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course topic</td>
<td>Interpretations and the operationalization of the sustainable development concept and the role of technology. Global environmental problems, infrastructure needs and development strategies are discussed worldwide within the sustainable development paradigm forming the background of the millennium development goals. Recommended background knowledge: Fundamentals of economics.</td>
</tr>
</tbody>
</table>
| Learning outcomes | **Disciplinary knowledge**
- concepts, theories & definitions: sustainability concept in politics and economics.
- subject matter (factual data, examples): operationalizing and measuring sustainability; technological learning and the relationship of technology and economic growth with sustainability; macroeconomic and innovation effects of sustainability policies.
- methods & procedures: strategic sustainability assessment.
- critical awareness of

**Professional skills**
Analysis of various interpretation of social science concepts, critical review and assessment of empirical results.

**Personal competence**
Ability to read and analyze relevant academic papers. |
| Assessment specification | written 60 min = partial module exam “Umwelt- und Ressourcenökonomie”
oral ---
other --- |

\[ WCH = \text{Weekly Contact Hours} \]