DESCRIPTION: Geography and especially climate and soil play an important role in the development of human settlements and culture in the region of Freiburg. This module focuses on how human culture impacts the regional ecosystems and will highlight the combined development of cultural processes and the environment in the Black Forest.

Students will gain knowledge regarding how to interpret a landscape with the help of maps and 3-surface models. They will learn about how natural resources and climatic/edaphic preconditions lead to the development of industries. There will be detailed insights into those historical industries and also practical imitations. Furthermore the course will show how those human activities have influenced the ecosystems leading to the present situation and show answers on how to mitigate those influences by ecosystem restoration and nature protection. The case study of the Freiburg Münster will show the students how closely linked human culture and natural history develop.

CREDITS: 3

CONTACT HOURS: 45

LANGUAGE OF INSTRUCTION: German

PREREQUISITES: A background in cultural geography and/or environmental science is recommended

ADDITIONAL COSTS: None

METHOD OF PRESENTATION:
- Lectures
- Discussions
- Debates
- Group work
- Other activating methods (releve, building a charcoal pile)
- Video clips
- Student presentations (review of papers)
- Excursions (e.g. Feldberg mountain, Rhine river)

Moodle will be used to post additional material, share assignments, follow recent developments in the field and offer learning exercises.

REQUIRED WORK AND FORM OF ASSESSMENT:
- Class participation - 10%
- Student presentations - 20%
- Midterm - 20%
- Final exam - 30%
- Reflection reports - 20% (2 reflection reports on excursions to Kaiserstuhl and Feldberg)

Class Participation
Participation during discussions based on the required readings, lectures, personal experiences and course-related trips in the region of Freiburg/Breisgau. The assessment will be based on the participation rubric.

Midterm
Students create a poster on one of the theme complexes covered in the lectures (e.g. Human impact on ecosystems) which includes substantial information and a transfer of the gained knowledge into a conclusion and a case outlook.

**Student Presentations**
Students will present a 10-15 minute summary of an academic topic of student’s choice that is related to the course content, including an introduction, scientific methods and results & conclusions. Class will conduct a critical reflection or discussion on the presentations. The choice of academic topic will be discussed with the course instructor.

**Reflection Report**
Students will reflect on the long field trips (all day) and the practical study by writing short reflection reports which include observations from field study and connections to in-class discussions and readings. (3 pages per report, 2 reports total)

**Final**
A written exam in the form of essay questions. The questions will focus on the main ideas and syntheses that could be drawn from different class subjects. The questions will cover lectures and readings.

**LEARNING OUTCOMES:**
By the end of the course students will be able to:

- Interpret the regional landscapes as a fundament of the development of certain cultural aspects in the Freiburg region
- Determine regional weather and climate patterns and connect them to the spatial pattern of landscape usage
- Analyse how natural history is linked to cultural development in the Freiburg region
- Recognise historical industries in the region of Freiburg and describe how these industries have changed the ecosystems
- Apply their gained knowledge to physically construct a charcoal pile. This is an opportunity for a deeper understanding of historical industries
- Identify the importance of certain historical industries for the development of certain cultural achievements in Freiburg
- Investigate strategies regarding how a society can mitigate ecosystem degradation by means of restoration and nature protection on a regional level
- Compare successes in ecosystem restoration to the development of ecosystem key species

**ATTENDANCE POLICY:** IES Abroad courses are designed to take advantage of the unique contribution of the instructor and the lecture/discussion format is regarded as the primary mode of instruction. Regular class attendance is mandatory.

- Every unexcused absence will lower your grade by 5%.
- Tests/presentations missed during unexcused absences cannot be repeated.
- If you miss a class it is your responsibility to catch up on everything that was covered in class.
- If you cannot attend class because you are sick, please go and see a doctor. S/he will issue a doctor’s note.
- Without a doctor’s note your absence will count as an unexcused absence.
### CONTENT:

| Session | Course organisation  
|---------| Introduction to the physical and cultural geography of the Breisgau region, Freiburg |

**Readings:**
- Ellenberg: Vegetation Mitteleuropas mit den Alpen, pp.1-9, 12, 23-31
- Thomas Heinl, Jörg Stadelbauer: Die Kulturlandschaft des ländlichen Raums in Baden-Württemberg, pp.123, 126-127, 133-137

| Session | Landscape interpretation using orographic maps and 3-D landscape models |

**Readings:**
- Landesvermessungsamt Baden-Württemberg: Freizeitkarte
- Georelief: Georeliefkarte Schwarzwald
- Marie Burger: Karteninterpretation, pp.1-4, (zur Interpretation der vorab genannten Karten)

| Session | How former industries shaped the region. Charcoal production, potash production, glassblowing |

**Readings:**
- Bernhardt: Glut in den Wäldern – Traditionelles Köhlerhandwerk, pp. 1-31

| Session | How former industries shaped the region. Cuckoo clock industries, silver mining, forestry |

**Readings:**
- Gert Goldenberg, Matthias Fröhlich: Der Birkenberg bei Bollschweil – Ein Bergbaurevier aus dem Mittelalter, pp. 6-8, 30-35, 50-51, 54
- Helmut Seebach: Altes Handwerk und Gewerbe in der Pfalz, pp. 151-169

| Session | Practical study: We construct a charcoal pile as a practical application of an important historical industry |

**Readings:**
- Ellenberg: Vegetation Mitteleuropas mit den Alpen, pp. 32-67

| Session | Forstamt Freiburg (forestry commission): Timber and recreation out of one hand – How forestry conjoins profitableness and the goal of ecosystem diversity/protection |

**Readings:**
- Gemeinderat Freiburg: Freiburger Waldkonvention, pp. 1-11

| Session | Excursion to the Stadtwald Freiburg (city forest) – Insights into sustainable forestry strategies |

**Readings:**
- Gerrit de Bont: Wolkenatlas, pp.10-12, 20-21

| Session | Freiburg, the warmest region of Germany |

**Readings:**
- Gerrit de Bont: Wolkenatlas, pp.10-12, 20-21
<table>
<thead>
<tr>
<th></th>
<th>Scientific principles for regional weather and climate as a foundation of land usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>• Human impact on ecosystems: Forest ecosystems (including vegetation and soils) in the Black Forest (including a releve)</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• Ellenberg: Vegetation Europas mit den Alpen, pp.802-803, 812-815</td>
</tr>
<tr>
<td></td>
<td>• Otti Wilmanns et al. in Regierungspräsidium Freiburg: Naturschutzgebiete im Regierungbezirk Freiburg, pp. 47-51, 65-72</td>
</tr>
<tr>
<td>10</td>
<td>• Human impact on ecosystems: grassland and vineyard ecosystems (including vegetation and soils) on the ancient volcano Kaiserstuhl (including a releve)</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• Wilmanns: Der Kaiserstuhl, pp. 130-138, 141-144</td>
</tr>
<tr>
<td></td>
<td>• Oliver Karbiener, Bernd- Jürgen Seitz: Magerrasen im Zentralen Kaiserstuhl und ihre Pflege (Tuxenia), pp. 87-90, 95-96</td>
</tr>
<tr>
<td>11</td>
<td>• Human impact on ecosystems: floodplain restoration and flood protection by the Rhine river</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• BUND Südlicher Oberrhein: Jahrhundertchance für die Revitalisierung des Restreines jetzt nutzen!, pp. 1-4</td>
</tr>
<tr>
<td></td>
<td>• BUND Südlicher Oberrhein: Integriertes Rheinprogramm, pp. 1-5</td>
</tr>
<tr>
<td></td>
<td>• Ellenberg: Vegetation Europas mit den Alpen, pp. 447-449, 477-484</td>
</tr>
<tr>
<td>12</td>
<td>• Excursion to vineyards and grasslands of the Kaiserstuhl and the Rhine river (all day)</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• Excursion to vineyards and grasslands of the Kaiserstuhl and the Rhine river (all day)</td>
</tr>
<tr>
<td>13</td>
<td>• Midterm – Poster presentation about one of the covered theme complexes</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• Ellenberg: Vegetation Europas mit den Alpen, pp. 485-501</td>
</tr>
<tr>
<td>14</td>
<td>• Ecosystem restoration: nature protection projects around Freiburg – How to mitigate the effects of human impacts</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
<tr>
<td></td>
<td>• Regierungspräsidium Freiburg: Durchgängigkeitsmaßnahme beim Sandfangwehr, pp. 1-8</td>
</tr>
<tr>
<td></td>
<td>• Stadt Freiburg: Umgestaltung der Dreisam im Bereich der Karthauswiesen, pp. 1-3</td>
</tr>
<tr>
<td></td>
<td>• Ellenberg: Europas mit den Alpen, pp. 416-426</td>
</tr>
<tr>
<td>15</td>
<td>• Excursion to a renaturation project by the Dreisam river</td>
</tr>
<tr>
<td>16</td>
<td>• Wildlife management in the Freiburg region: the grouse project – the rise and fall of grouse populations</td>
</tr>
<tr>
<td></td>
<td>Readings:</td>
</tr>
</tbody>
</table>
COURSE-RELATED TRIPS:

For the field trips come prepared with proper clothing in case of rain and cool temperatures. You will receive advance notice if you need to bring lunch.

<table>
<thead>
<tr>
<th>17</th>
<th>Excursion to the nature reserve Feldberg (grouse project all day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Student presentation and discussion</td>
</tr>
<tr>
<td>19</td>
<td>Freiburg’s Münster: the importance and influence of the region’s development – Construction of Freiburg’s Münster depended on regional natural resources and is strongly linked to silver mining</td>
</tr>
<tr>
<td>20</td>
<td>Excursion to the Freiburg Münster</td>
</tr>
<tr>
<td>21</td>
<td>Final written exam in the form of essay questions</td>
</tr>
<tr>
<td>22</td>
<td>Excursion to the Freiburg Münster</td>
</tr>
</tbody>
</table>

REQUIRED READINGS:

- Gert Goldenberg, Matthias Fröhlich: Der Birkenberg bei Bollschweil – Ein Bergbaurevier aus dem Mittelalter, pp. 6-8, 30-35, 50-51, 54
- Bendit Schuelberger: Wie die Freiburger ihr Münster bauten. Eine Zeitreise in historisch präzisen Zeichnungen, pp. 11-25
- Winfried Ott: Die besiegte Wildnis, pp. 28-44, 158-160
- Winfried Ott: Die besiegte Wildnis, pp. 28-44, 158-160
- Schacht a. Braunsch. v. Rahmenbedingungen und Handlungsfelder für den Aktionplan Auerhuhn, pp. 4-10, 26-40

COURSE-RELATED TRIPS:

Freiburg Münster – during our excursion to the Freiburger Münster we will study the relationship of regional natural history and cultural development. E.g. why was the silver mine and the availability of sandstone important for the construction of the Münster?

- Stadtwald Freiburg – we visit city forests and see how city foresters manage the forest in a sustainable way allowing timber production, ecosystem diversity and recreation.
- Vineyards and grasslands of the Kaiserstuhl and the floodplanes of the river Rhein – we will see examples of human impact on ecosystems and ongoing/planed restoration.
- Renaturation project – during our excursion of a stretch of the Dreisam River in Freiburg we will learn about how small channeled river can be turned back in to a close to nature state and how that action changes the river ecosystem.
- Nature reserve Feldberg – on our hike in the subalpine zone at the mountain Feldberg and at the House of Nature we will learn how long term changes in forest structure influence key species like the forest grouse and what can be done to support it today. We examine advantages, disadvantages and the limits of such a nature protection project.
- Freiburg Münster – during our excursion to the Freiburg Münster we will study the relationship of regional natural history and cultural development. E.g. why was the silver mine and the availability of sandstone important for the construction of the Münster?
• Benidikt Schaufelberger (2007): Wie die Freiburger ihr Münster bauten: Eine Zeitreise in historisch präzisen Zeichnungen, pp.11-25
• BUND Südlicher Oberrhein (2002): Jahrhundertchance für die Revitalisierung des Resistheines jetzt nutzen!, pp. 1-4
• BUND Südlicher Oberrhein: Integriertes Rheinprogramm, pp. 1-5
• Gerrit de Bont (1987): Wolkenatlas, pp. 10-12, 20-21
• Helmut Seebach (1990): Altes Handwerk und Gewerbe in der Pfalz, pp. 151-169
• Oliver Karbiener, Bernd- Jürgen Seitz (2013): Magerrasen im Zentralen Kaiserstuhl und ihre Pflege (Tuxenia), pp. 87-90, 95-96.
• Otti Wilmanns et al; in Regierungspräsidium Freiburg (2004): Naturschutzgebiete im Regierungsbezirk Freiburg, pp. 47-51, 65-72
• Regierungspräsidium Freiburg (2011): Durchgängigkeitsmaßnahme beim Sandfangwehr, pp. 1-8
• Stadt Freiburg (2015): Umgestaltung der Dreisam im Bereich der Karthauswiesen, pp. 1-3

Additional resources:

• Georelief (2016): Georeliefkarte Schwarzwald
• Landesvermessungsamt Baden-Württemberg (2017): Freizeitkarte
• http://freiburgs-geschichte.de/1218-1368_Freiburgs_Grafen.htm, Der schönste Turm auf Erden