

## **Renewable Energy: Policy and Development Summer Program Arcadia University, Northwestern University, University of Bonn**

**Course Title: BONN ESRE 350S Renewable Energy: Policy and Development**

**Credits: 6**

This new interdisciplinary program will give American undergraduates from various academic backgrounds an introduction to the field of renewable energies as a response to today's climate and energy problems. The program will start with what students might know, a rather large scale perspective on energy policies and global actors such as UN agencies and actors such as NGOs, world wide associations and large corporations. Students will then be introduced to the European Unions approach and visit the European Commission in Brussels. The program will then focus on students own and their host country's efforts in the field, and look at concrete examples of local action during their last week in Bonn. During this week they will also be asked to put what they learned to use, in a simulation, in a larger discussion, as well as in their final papers. During their final week on the program, students will get the chance to take all of this a step further. In Berlin, they will have the chance to use what they learned over the last weeks in order to ask informed questions and discuss relevant topics with politicians and practitioners as well as researchers.

Regular classroom will be complimented with guest lectures from and visits to international and local agencies from the field of renewable energy, politics and research.

Students will be enrolled in a class on German language and culture to afford them with a better understanding of their host country and its background.

The program will be conducted in English, classes as well as reading material will be in English as well.

### **Week 1 – Welcome Week and Orientation**

Students will arrive on Thursday, July 1, and welcomed at the International Office. After receiving first information they will be brought to their dorms. The next two days will be used to familiarize them with their program, the university and the city and will introduce them to their "Bonn Buddies". Students will also participate in an intercultural workshop "Meet the Germans" to get first insight into their host countries cultural standards and values and give them support when dealing with intercultural situations.

Keynote on Global Warming and/or Climate Change

## Weeks 2-5 – Coursework, Guest Speakers and Excursions

Monday	Tuesday	Wednesday	Thursday	Friday	Weekend
<b>9-11:30</b> <i>Germany Today</i>	<b>9-12: class (<i>Global Decisions, Local Actors</i>) and Guest Speakers</b>  (W3 meetings/class in Brussels) (W4 Freiburg)			<b>9-10:30</b> class <b>11-12:</b> Review & Preview	W2: weekend off W3: "3-River-Tour" W4: weekend off W5: trip to Berlin
<b>Afternoon</b> W2: Intro W3-5: Field trips: W3: Juelich W4: Windpark W5: Morbach	<b>2-5: class (<i>Global Decisions, Local Actors</i>) and Guest Speakers</b>  W3 meetings/class in Brussels +visit Aachen W4 Freiburg			<b>2-3:30</b> <i>Germany Today</i> (W5: Exam)	
	<b>5: Co-curricular Project</b> W2 Intro W3-5 independent project work	<b>Evening:</b> W2: Bonn W3: Brussels W4: Cologne	Time for independent projects	<b>4-6: cultural excursion</b> W2: HdG W3: see Sat. W4: Bruehl W5: see Sat	

### 1) „Energy Policy: Global Decisions, Local Actors“

This course will focus on the „energy“ factor of global efforts and achievements of policy-making to achieve global sustainable development. It will explain energy policy and its development towards the use of renewable energies and efficient energy consumption, highlighting the different approaches of various actors (mainly Germany, other European nations and the U.S.), and fields of conflict. Recent developments will be discussed as well.

Students will be assigned readings to prepare and deepen their understanding, they will be asked to give presentations on the various topics and discuss. Throughout the four weeks in Bonn, participants will furthermore develop proposals for different actors how to approach these subjects. These proposals will in the end be put into a one day simulation game and help them prepare for their final papers.

Various field trips and longer excursions will complement the academic program.

### Week 2 Global actors in Bonn

<b>Global Decisions, Local Actions</b>	<b>Guest Lectures</b>	<b>Visits/Field Trips</b>
<ul style="list-style-type: none"> <li>• Introduction: „Energy Policy“, „Energy Security“ and „Renewable Energy“ from the viewpoint of Political Science [2 course hours]</li> <li>• Sustainable Development and Energy Policy [2 course hours]</li> <li>• The role of the international community, esp. the UN               <ul style="list-style-type: none"> <li>- Development up to the Kyoto Protocol [2 course hours]</li> <li>- After Kyoto, incl. the MDGs, esp. Goal 7/subtarget 1 and goal 8/1 and 5<sup>1</sup> [2 course hours]</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Technologies for the future: guest speaker from Forschungszentrum Jülich and World Wind Association, [4 course hours]</li> <li>• Further guest lectures and visits, such as UNCCD, UNFCCC, SolarWorld, [IRENA], Bonner Center for Conversion [6-10 hours]</li> </ul>	<ul style="list-style-type: none"> <li>• UNO-Campus</li> </ul>

### Week 3: The European Union

<b>Global Decisions, Local Actions</b>	<b>Guest Lectures</b>	<b>Visits/Field Trips</b>
<p>Common EU Energy Policy</p> <ul style="list-style-type: none"> <li>• History (European Steel and Coal Community, European Atomic Energy Community) [2 course hours]</li> <li>• Towards the future – a common strategy? [2 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• EUROSOLAR [2-6 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• Brussels               <ul style="list-style-type: none"> <li>- EU Commission</li> <li>- EU Parliament [6 course hours]</li> </ul> </li> <li>• Forschungszentrum Jülich (Solar Power) [4 course hours]</li> </ul>

### Week 4: US and Germany – a comparison?

<b>Global Decisions, Local Actions</b>	<b>Guest Lectures</b>	<b>Visits/Field Trips</b>
<ul style="list-style-type: none"> <li>• U.S. Energy Policy [2 course hours]</li> <li>• Germany as a role-model of sustainable energy policy? [4 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• RWE</li> <li>• German Agency for Technical Cooperation,</li> <li>• Dt. Bauernverband</li> <li>• University of Bonn: Faculty of Agriculture, Department of Geography</li> <li>• Prof. Dr. Thomas Bredow (energy from algae) [8 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• Europe's largest inland Windpark [4 course hours]</li> <li>• Renewable Energy Community Morbach [4 course hours]</li> </ul>

### Week 5: Local action? And “Putting what you learned to work”

<b>Global Decisions, Local Actions</b>	<b>Guest Lectures</b>	<b>Visits/Field Trips</b>
<ul style="list-style-type: none"> <li>• Current developments [2 course hours]</li> <li>• Focus region [2 course hours]</li> <li>• Simulation on Energy Policy [5 course hours]</li> <li>• Final Presentations of students' work [5 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• Stadtwerke Bonn (NaturGas, NaturEnergy, BonnDUO),</li> <li>• representative of the city of Bonn</li> <li>• Prof. Peter Welke (Geography, Bonn) [4-6 course hours]</li> </ul>	<ul style="list-style-type: none"> <li>• Field trips to city of Bonn</li> <li>• University of Bonn facilities [4-6 course hours]</li> </ul>

<sup>1</sup> The outcome of the Copenhagen summit will be included here as well

## **2) Germany Today – Culture and Language**

This course of approximately 20 course hours will provide students with some survival German and give them a basic idea of the language's structure. While the overall program will be conducted in English, this might give students the chance to make first steps in a new language or brush up on what they might have learned earlier.

The second part of the class will introduce students to German culture, both "high" and "low". History, important art movements, classical and popular music will be presented as well as German customs and festivities and recent developments in German literature and film. One focus will be Germany's approach to climate change and today's energy challenges but even more so what lies behind the Germans' approach to these problems and what is their overall relationship with nature.

The coursework will be complemented by field trips to museums such as

- Federal Museum of German Post-War-History (Haus der Geschichte)
- Art and Exhibition Hall of the Federal Republic of Germany (Kunst- und Ausstellungshalle der Bundesrepublik Deutschland) or Art Museum Bonn
- Beethoven Concert and/or House (Beethoven's birth place)
- Castle Brühl
- Cities of Aachen and Cologne

### Week 6: Berlin – German Policy Making and Research

In Berlin the group will meet with practitioners, politicians and researchers from government agencies, ministries and NGO's.

The five-day excursions to Berlin will also entail cultural input as well as a visit to Potsdam.

### General Program Information:

Students benefit from the University of Bonn's broad experience hosting study abroad programs and from the intensive personal commitment of their academic supervisors and the chairs of the participating departments.

Participants will come to Bonn for the month of July and continue on to Berlin for another 5 days at the end of the program. While in Bonn, participants will be enrolled as Bonn University students, benefitting from all University facilities and amenities. Students will receive a regular Bonn student id which will also function as their public transportation pass for not only Bonn but the whole state of North Rhine Westphalia.

Students will be housed in single rooms in regular student dorms and during excursions in hostels or hotels.

One meal (lunch or dinner) will be included on class or excursion days. Breakfast will be included on excursions. Students are responsible for other meals.

In order to integrate students into the Bonn University community, students from Bonn will act as "Buddies" to the program participants.