

2012 Summer in Germany

“Power of the Sun”

The program will explore how solar power can be used for producing electricity and for planning/architectural design. Schloss Dyck is the ideal location since Germany is one of the world's top photovoltaics (PV) installers. The

country is also at the forefront of buildings with PV integrated designs. Historical practices suggest that sustainable solutions – concerns of communal issues of space – have long been part of lar-

ger ideals that have shaped German building



Schloss Dyck

culture. There are now well over 250,000 jobs in Germany's renewable energy sector, and jobs in solar power are expected to surge as the country prepares to close all its nuclear power plants by 2022.



2011 Group in Ketzin

The program focuses on the planning, design, integration, and evaluation of PV systems in larger buildings, smaller individual residences, and larger utility-scale solar farms. Students will explore several small and large-scale solar installations in Germany, visit PV equipment manufacturers, and meet with industry leaders.



Classroom

Course Offerings

ECE 495/595, SUST 402: Photovoltaics – Devices and Systems (3 credits).

Taught by Professor Olga Lavrova, Electrical and Computer Engineering, Center for Emerging Energy Technologies (olavrova@ece.unm.edu).

This course will present the technical details of photovoltaics devices and systems, integrated with issues of housing and urban design as well as local and global policy-making. The class will start with an overview of the principles of operation of various types of PV devices and the discussion of the balance-of-system components required for the interconnection of a PV system to the power grid. Students will be exposed to limited business-case analysis and planning for different photovoltaic scenarios, learning to evaluate differences in requirements between small residential PV systems and large scale PV farms. At the end of this class, engineering students will have advanced knowledge of PV topics, including multiple strategies of passive solar and other efficient architectural techniques and overall organizational requirements. Non-engineering students will gain broad knowledge of advantages, issues, challenges, and/or costs that surround deployment of PV systems and structures.



Entrance to the Castle

ARCH 462/662, SOC 398 : Communal Concerns – Housing and Photovoltaic Assets (3 credits).

Taught by Professor Kristina H. Yu, School of Architecture and Planning (khyu@unm.edu).

This course will look at significant factors that contribute to the current typologies of housing in Germany as they relate to communal issues of space (e.g., current public perspectives and private concerns regarding PV panels on buildings). Early German mass housing efforts from the late 19th and into the 20th century, post WW2 reconstruction efforts, and current modern housing developments are studied to build an overall understanding of the integration of communal concerns within the larger private to public spheres. Solar collection as an integrated communal asset is emphasized in the latter part of the course, which seeks to bridge the understanding of a sustainable community through communal asset, local policy, and technology. This component is not only an addition to creating an energy efficient system but one of the key elements in a long history of planned and maintained assets of community concern. The final section of the course will focus on an integrated study of Germany's housing design shifts, technological concerns for housing developments, with the local to national mandates for energy efficiency. Photovoltaic integration for existing buildings as well as new construction is one of the key elements in determining a larger vision for a sustainable city.

UNM's Summer in Germany will allow you to:

- Transform your educational experience by traveling & studying in a foreign country;
- Immerse yourself in German language, culture & society;
- Understand the science, construction & social aspects of solar power.

“Power of the Sun”

Program Fee

\$2,300 per student (estimate)

Included in the program fee

Room/board (3 meals per day) at the Nikolauskloster & Schloss Dyck; local transportation & excursions (Schott Solar and Sunny Boy's SMA Solar



Nikolauskloster

Technology plants); two multi-day field trips to Berlin and Munich & Stuttgart (incl. hotel & breakfast, guided tours); visit to Technical University of Darmstadt's Solar Decathlon house; and guest lectures.

Not included in the program fee

UNM tuition (no reduced rates for senior citizens); airfare; passport fee; mandatory travel insurance (~\$35); optional ISIC student discount card (\$22); lunch/dinner during field trips; personal expenses.

Program Calendar

Arrive Düsseldorf on Sunday, June 3, 2012

ECE 495/595, SUST 402

Monday, June 4 — Friday, June 15, 2012

Includes excursions to solar companies (Schott, SMA), Solar Decathlon house & Berlin

ARCH 462/662, SOC 398

Monday, June 16 — Friday, June 29, 2012

Includes excursions to Munich & Stuttgart

Depart Schloss Dyck on Saturday June 30, 2012

Eligibility

Eligible participants should be full-time students enrolled at a NM college or university. NO KNOWLEDGE OF GERMAN REQUIRED.

Application Process & Deadlines

Application Deadline: Friday, March 9, 2012

Initial deposit of \$1,000 due by March 30, 2012 (includes non-refundable \$100 application fee)

Final balance of \$1,300 due by May 1, 2012

International Scholarship Deadlines

Regents' Grants (OIPS): March 1, 2012

ISI Summer Scholarships: March 1, 2012

REASONS TO STUDY ABROAD

- Broaden your horizons
- Explore another culture and see the world from a different perspective
- Enhance your resume
- Increase your earnings potential
- Pay UNM tuition and earn resident credit (financial aid and scholarships available)



Solar installation near Munich

“Power of the Sun”

Summer 2012



Earn Six Credits at a Historic Castle near Düsseldorf, Germany

Taught by:

Kristina Yu, Assistant Professor of Architecture
Olga Lavrova, Assistant Professor of Computer & Electrical Engineering

For more information contact Kathryn Padilla
505-277-3133 or katpad@unm.edu

Offered by:

The University of New Mexico
International Studies Institute, College of Arts & Sciences
www.unm.edu/~isi

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