NSF IRES PROGRAM OVERVIEW

Dates in Amsterdam: April 26th – May 10th

Dates in Egypt: May 11th – May 25th

Research Focus:

The proposed program will focus on the multidisciplinary area of sustainable green building design and construction. This area has been selected for three primary reasons: 1) with the rising costs of energy, there is a growing need for energy conservation and protecting the natural resources by using environmentally friendly and energy-efficient building materials; 2) the area is broad and encompasses a number of research areas, thus providing a unifying research theme that will enable a cohort experience for the U.S. students; 3) UAB and the host institution (HBRC in Cairo, Egypt) have collaborated on research in this area and have jointly held two NSF International Workshops directly related to this theme.

Students in the program will be involved in collaborative research projects with direct mentoring by faculty from the U.S. and Egypt, as well as experts on sustainability from the Netherlands.

Research Projects:

The following are the project titles that the students will be working on together with HBRC:

- Project 1. Sustainable Affordable Housing
- Project 2. Novel and Green Autoclaved Aerated Concrete (AAC) Building System
- Project 4. Economical Assessment of the Green Building Code
- Project 5. Sustainable Green Concrete Material
- Project 6. Assessing the Energy Efficiency of Green Roofs
- Project 7. Development of Low-Cost Construction Materials Utilizing Agricultural Waste

Detailed project description has been developed and will be provided to the students.

Student Work Products:

Students will be required to prepare final detailed projects reports including PowerPoint presentations and a summary of their research report that can be used for scientific journal publications.

Itinerary in Amsterdam: See Attached

Itinerary in Egypt:

- Sunday, May 10th: Fly from Amsterdam to Egypt
- Monday, May 11th - Monday May 25th: During the period spent in Egypt, the students will be meeting with their individual mentors (from HBRC) regularly, and they will be working in their respective research projects.
- Monday, May 25th: Fly from Egypt to Birmingham
SUSTAINABILITY STUDY AWAY PROGRAM

THE NETHERLANDS ITINERARY

THE NETHERLANDS: April 26th – May 10th

Sunday, April 26

Fly from Birmingham to Amsterdam.

Monday, April 27

Arrive in Amsterdam. Hotel check-in. Introductory walking tour of the city. Group dinner. Evening class time to review course goals and prepare for Tuesday activities.

Tuesday, April 28

Bike tour of Amsterdam led by Cornelia Dinca. Focus on sustainability sites. Lunch included. Afternoon visit to Westergasfabriek. Learn about clean-up of heavily polluted industrial site and transformation into a vibrant cultural center. Dinner at Westergasfabriek.

Wednesday, April 29

Morning tour of North Amsterdam (visit De Ceuvel, urban gardens, A-lab, student container housing). Group lunch. Afternoon visit to Van Gogh Museum (entrance fee covered in student cost). Dinner on your own.

Thursday, April 30

Free day. Optional visit to Kuekenhof Gardens (additional expense: approximately 20 EUR travel, 16 EUR entrance). Meals on your own.

Friday, May 1

Morning visit to University of Amsterdam to learn about their graduate program in Science for Energy and Sustainability. Afternoon visit to Anne Frank house (entrance fee covered in student cost). Evening group dinner and working session for projects and preparation for interim presentations.

Saturday, May 2

Group breakfast with discussion of trip experience to date and presentation of initial reflections and project conceptualization. Morning free to work on projects. In afternoon, check into barge for bike and barge trip with Responsible Travel. Dinner on barge.
Sunday, May 3

Sightseeing by bike in Gouda. Study culture of sustainable food production and buildings constructed from natural materials in the area. Visit Stadhuis (Old Townhall made of natural materials between 1448-1450, now a museum), Cheese Markt and De Waag (cheese weighing station and museum), Museumhaven Gouda (history of the city’s harbor and shipbuilding), Windmills (Molen ‘t Slot and Molen de Roode Leeuw)

Monday, May 4

Cycle to the world famous windmills of Kinderdijk. We plan to visit one of the mills, and then pedal to Dordrecht and partially through the natural reserve Biesbosch to Moerdijk. The night will be spent in the walled town of Willemstad.

Tuesday, May 5

Conclude cycling trip and travel by bus to Rotterdam. Walking tour of water containment structures and comparison to Alabama Gulf Coast. Tour green roof sites and electric car charging grid. Examine system for food availability to those living within the city. Group dinner with presentation of individual reflections on experience of travel by bicycle and Dutch village life.

Wednesday, May 6

Free day with meals on your own.

Thursday, May 7

Travel by train to Delft. Attend lecture at Technical University campus and tour the impressive library recently constructed using sustainable architecture. Discussion with Technical University faculty about sustainable agriculture practices and local markets for produce. Working session in afternoon.

Friday, May 8

Morning consultation with graduate students at Technical University. Visits to Boter Brug (Butter Bridge, the longest in Delft), Botanic Garden operated by the University of Delft, De Roos Windmill (constructed in the early 1800s), Royal Dutch Delftware Porcelain Museum, Delft Town Hall and Old Church, and Vermeer Center.

Saturday, May 9

Celebrate Nationale Molendag in Amsterdam by visiting historical windmills open to the public on this day. This celebration is on the 9th and 10th in 2015, so this is our only option if we want to see inside some structures typically closed to visitors. Travel to Amsterdam for last overnight. Group dinner.

Sunday, May 10

Fly from Amsterdam to Egypt