

BELGIUM ENVIRONMENTAL SOIL AND WATER STUDY ABROAD PROGRAM 2007

BIOLOGICAL AND AGRICULTURAL ENGINEERING DEPARTMENT

New Orleans could have used Dutch technology in 2005 for protection from hurricane Katrina. That was one of the lessons that students on the Belgium Study Abroad program learned on a field trip to the Delta Works storm-surge barrier on the coast of the Netherlands.

The annual Belgium Study Abroad program is sponsored by the Biological and Agricultural Engineering Department at Texas A&M University in partnership with the Katholieke Universiteit of Leuven (KUL), in Leuven, Belgium. KUL was established in 1425 and is the largest university in Belgium. Leuven is known as a “university town”, teeming with outdoor cafes and restaurants, numerous market squares, lots of medieval churches and a beautiful town hall. The Flemish-speaking town, which dates to the early 600’s, is located 30 km (18 miles) east of Brussels. Although Flemish, French and German are the official languages of Belgium, most residents of Leuven also speak English!

The five week Study Abroad program is offered during the second summer session (July and August) and is open to all Junior and Senior level students at Texas A&M with an interest in hydrology and environmental technology. Students from KUL also attend the classes. TAMU students live in a KUL-owned house, attend two TAMU classes taught by TAMU faculty members and receive six hours of credit towards graduation. All students rent bicycles for transportation to class and around town. Philip Luedecke, a senior BAEN student on this year’s program, said that riding a bike, just like most residents of Leuven, gave him a better understanding of Belgium culture.

The typical weekly schedule has classes all day on Tuesday and Wednesday and a field trip on Thursday. The field trips are designed to complement the classes and to highlight similarities and differences between U.S. and European methods of protecting the environment and natural resources. Sites in the Netherlands, Belgium and Germany provide students a chance to see European



Pictures from top: Statue of Justus Lipsius and the clock tower of the university library at the Katholieke Universiteit Leuven in Leuven; Program participants using local transportation; Delta Works sea-gates across the mouth of the Eastern Schelde Estuary on the coast of the Netherlands.

environmental practices in action. The program's four-day weekends give the students opportunities to explore Belgium and other nearby countries on their own. Popular destinations include Amsterdam, Paris, Cologne, London, and Prague.

On the field trip to the Netherlands, students learned that protection from sea-surges is extremely important since over 50% of the Netherlands is below sea level. Equally important for their maritime tradition is protection of the estuary ecology for shellfish that require daily tidal fluctuations. Therefore, instead of installing a permanent dam across the estuary that would have ended the shell fishing industry, the Dutch developed an innovative series of gates across the 9 km (5.4 miles) wide mouth of the Eastern Scheldt estuary. The gates can be closed during sea-surges but remain open all other times. This unique engineering feat protects not only people and property, but also the environment and a way of life in coastal Netherlands.



Inside the groundwater collection gallery at Chaumont-Gistoux, Belgium.

Another important difference between U.S. and European environmental practices is that in Belgium, all landfills for municipal waste have been closed due to a lack of space. Therefore, all municipal waste is recycled, composted or incinerated and all households, restaurants, and businesses must thoroughly sort their waste. It is only by sorting the waste at the source that this far-reaching environmental policy is possible. In addition, the manufacturer is responsible for the recycling of their products. Everything from cars, to refrigerators to wine bottles must be recycled, composted or incinerated at the expense of the manufacturer!

Program field trips included visits to a municipal composting facility, a waste water treatment plant, soil remediation operations, an industrial landfill where the leachate is cleaned and used for aquaculture and the landfill gases are captured for the production of electricity, a surface water treatment plant and a groundwater collection gallery. |



Program participants outside the groundwater collection gallery at Chaumont-Gistoux, Belgium.

For more information on the Belgium Study Abroad program for the summer of 2008 please contact Dr. Munster at: c-munster@tamu.edu.