



Winter 12-7-2000

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Recommended Citation

Aaron, Bob, "Tom Hladish of Evanston, Ill. IWU Biology Major Headed to Semester At Biosphere 2 Ecology Laboratory in Arizona" (2000). *News and Events*. 907.
<https://digitalcommons.iwu.edu/news/907>

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Dec. 7, 2000

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Tom Hladish of Evanston, Ill. IWU Biology Major Headed to Semester At Biosphere 2 Ecology Laboratory in Arizona

BLOOMINGTON, Ill.--A biology major will become the first Illinois Wesleyan University student to study at Biosphere 2, the world's largest glass-enclosed ecological laboratory, when he arrives at the Arizona-based teaching and research center next January.

Tom Hladish, a junior from Evanston, Ill., will spend the spring semester of 2001 participating in the 16-week Earth Semester Program, which gives students the opportunity to examine environmental and ecological issues from an interdisciplinary perspective linking science and public policy.

More than two dozen campuses--including IWU--are partners in the Biosphere 2 program, which has been operated by Columbia University since the mid-1990s.

Interdisciplinary Approach

Hladish, a 1998 graduate of Evanston Township High School, said he opted for the Biosphere 2 experience because "I think the focus of the program is what I want the focus of my career to be--that is working in environmental studies with an interdisciplinary approach to making changes in how people act and what our laws are" that affect the environment.

An interdisciplinary approach to studying the environment is appealing to Hladish for several reasons. "I realized that it doesn't matter what you know if you can't convey it to others," he explained.

"We have to learn how to educate others," he added, "and convince them to do something potentially unpleasant and costly in the short-term so that in the long-term we can maintain our lifestyle or even save human lives."

Students at Biosphere 2 have the opportunity to understand how humans impact the Earth by participating in semester-long educational and research programs.

Biosphere Officials Visited IWU

Two Biosphere 2 officials visited IWU in September before Hladish was selected for the program. They were Mike Omiecinski, director of student admissions, and Kristan Cockerill, an assistant professor who teaches a course on the Human Role in Environmental Change, providing the social science and humanities portion of the wide-ranging Earth Semester program.

Initially, Hladish began his biology studies with an eye on attending medical school. However, he changed his focus as he spawned an interest in the problems of biodiversity.

"Biodiversity loss," Hladish explained, "is happening at a faster rate than ever before in the history of the Earth--its pace is faster than when the dinosaurs died.

"If we kill off species," he added, "we can't regenerate biodiversity. The world wouldn't be the same--all life is interconnected."

A survey conducted by the American Museum of Natural History and pollster Louis Harris supports Hladish's contention. The canvass reported that seven out of 10 biologists believe the world is now in the midst of the fastest mass extinction of living things in the 4.5 billion-year history of the planet.

Student Selection Criteria

Abigail Jahiel, assistant professor of international and environmental studies and co-director of IWU's Environmental Studies Program, explained that students will have the option of enrolling in Biosphere's Earth Semester or Universe Semester, which has an astronomy and astrophysics emphasis.

"We're looking for students who are comfortable with math and science," Jahiel said, "but they don't have to be majors in those fields. Students must have the ability to adapt to new situations and work well with others since they will work on research teams and do interdisciplinary work. Students also should have good academic records."

Adaptation by students is important, Jahiel explained, since they will be living in "a desert environment, which is a dramatically different climate from where most students come from."

Last summer Hladish easily passed the "adaptation test," when he and a companion trekked more than 16,000 miles on a 49-day odyssey, traveling through Egypt, Israel, Greece, Italy, and Spain, toting a 24-pound backpack crammed with camera gear and clothes.

"Hands-on" Experience

Given Harper, associate professor of biology and co-director of IWU's Environmental Studies Program, described Biosphere 2 as a "state-of-the-art facility, where you can control environmental variables to see how they impact ecosystems." The program, he added, gives students "hands-on experience in trying to solve ecological and environmental problems."

The Earth Semester Program gives students the opportunity to learn the fundamental science of ecological systems and how science is used in ecosystem management. Students sharpen skills in scientific analysis, systems modeling, interdisciplinary communication, and written and oral presentations. The program also includes fieldwork in various locales, including the Grand Canyon, Sea of Cortez, and the Mojave Desert.

Biosphere 2 Described

Biosphere 2 is a glass structure sealed off from the Earth by a 500-ton stainless steel liner. It covers 3.15 acres, reaches 91-feet tall at its peak, and contains five separate ecological areas: a rainforest, desert, savanna, marsh, and ocean. Within this compact space are housed more than 3,000 species of organisms.

Each semester—beginning this spring—IWU students will be selected to participate in academic programs at Biosphere 2, where they will study with others from Columbia University's campus partners, including Davidson, Occidental, Smith, and William and Mary.

Students live on Biosphere 2's 250-acre campus in the Sonoran Desert. Some opt for community living with about 10 classmates, while others prefer to share housing with only one or two students.

The campus is located in the foothills of the Santa Catalina Mountains in Oracle, Ariz., about a 30-minute drive from Tucson.

Biosphere 2--named after mother Earth, the original biosphere--was constructed in the 1980s as an experimental site to test the ability of people to live in and manage an enclosed ecosystem.

For two years, four men and four women inhabited the site. They controlled the temperature, light, carbon dioxide, and other air and soil characteristics with sophisticated sensory monitors and other equipment. They moderated rainfall, temperature, and the chemical composition of the atmosphere within their self-created "planet."

Columbia University took over the facility in 1996, converting the large-scale ecological laboratory into an experimental learning center that gives students hand-on experience illustrating how the environment affects lives and how people affect the environment.

Importance of Biosphere 2

Harper believes that projects like Biosphere 2 are important for several reasons.

"The Earth is facing severe environmental problems," he explained, "including the loss of biodiversity, pollution, and human overpopulation. These environmental problems directly impact human welfare and well being. If we don't take steps to correct them at the very least our quality of life on Earth will be affected--at the very worst the continued existence of humans is questioned."

Jahiel observed that solutions to many environmental problems ultimately may rest in societal and political decisions.

"To study natural science alone isn't sufficient," she said. "It's essential to understand national and global political processes and the U.S. role in those processes, as well as cultural, social, and

economic issues. Biosphere 2 offers this integration of the humanities, social science, and science."

Plans and Views

Hladish is planning on attending graduate school after he graduates from IWU in 2002 with the goal of earning a doctorate in biology and having a career in environmental studies perhaps as a college professor.

After studying ecology, Hladish concedes, it's "easy to be pessimistic and overwhelmed by hundreds of years of problems that have built up and the hundreds of years of solutions that are necessary."

However, he sees environmental studies as much more than a mass of intractable problems. He sees the field as a creative interdisciplinary blend of science, psychology, and politics.

"Psychology is amazingly important in solving environmental problems," he explained, "especially in seeing how people make the decisions they make and why. It also answers questions about how you get policymakers to say no to powerful organizations when their interactions with the environment are detrimental."

Tom Hladish is the son of Edward and Ruth Ann Hladish of 734 Milburn St., Evanston, Ill.

About IWU

IWU, founded in 1850, enrolls more than 2,000 students in a College of Liberal Arts, and individual schools of Music, Theatre Arts, Art, and Nursing. Since 1994, these facilities have been added to the IWU campus: a \$15 million athletics and recreation center, a \$25 million science center, a \$6.8 million residence hall, a \$5.1 million Center for Liberal Arts, and a \$1.65 million baseball stadium. A \$26 million library and a \$6 million student center are under construction.