Some 25 Washington University students paired up with Clay School fourth- and fifth-graders and Holy Trinity School sixth-graders and worked on their Star Stage site for "Graffiti Paint-Out '94" last weekend. University students involved with the university's Outreach Program for America, a Campus Y program, won an $870 grant from Youth As Resources to paint over graffiti in the Hyde Park neighborhood. Above, first-year engineering students Quentin Kruel and Martheke Thurston help cleanup efforts.

Losos receives five-year Packard fellowship for evolutionary research

Jonathan B. Losos, Ph.D., assistant professor of biology, has received a five-year $500,000 fellowship in science and engineering from the David and Lucile Packard Foundation.

Losos is the third Washington University scientist to win a Packard fellowship since the program began in 1988. Joy M. Bergelson, Ph.D., now at the University of Chicago, won while she was an assistant professor at the University in 1993, and Michael W. Friedlander, Ph.D., professor of physics, who teaches the course along with Carl M. Bender, Ph.D., Willem H. Dickhoff, Ph.D., and Michael C. Ogilvie, Ph.D. "Some of us would call it an evangelical mission," Losos said.

"And by connecting the basic concepts of physics to everyday life and contemporary issues, the course is giving students a basis for the scientific perspective in general, as well as an understanding of physics in relation to society."

Losos, an evolutionary biologist, uses a variety of disciplines in a novel way to explore the mechanics of evolutionary diversification. His integration of ecological and evolutionary processes in the study of Caribbean lizards is drawing wide recognition as a means to understand the adaptive basis for species diversification as well as for its detailed contributions to herpetology, a branch of zoology dealing with reptiles and amphibians.

In addition to the Packard fellowship, Losos also received two National Science Foundation grants in 1994 totaling $500,000 for related research. Losos earned a bachelor’s degree in physics class that makes sense to them and can be applied in their everyday lives.

Losos' five-year Packard fellowship will provide funds to cover faculty salaries for his research team and support their collaboration with students and the community.

"This effort began in conjunction with discussions of the fiscal year 1995 budget and what we learned through the Student Financial Aid Office," Losos said. "But there are many other, less visible improvements under way in a wide variety of student services."
Animal welfare

Researchers will learn more about the responsible use of animals in research during a two-part workshop and seminar Nov. 7-8 in St. Louis. Representatives of the U.S. Department of Agriculture's Animal Welfare Information Center (AWIC) will present legal alternatives in animal research. These alternatives, or the "three R's," include reducing the number of animals used, refining experimental procedures to lessen pain and distress, and replacing animals with in vitro methods.

The seminars are sponsored by the St. Louis Consortium for Animal Welfare Education, which comprises institutions involved in animal research, including Washington University, St. Louis University, the University of Missouri-St. Louis, Monsanto Corp. and Mallinckrodt Medical Inc.

The first part of the workshop will take place from 9:11 a.m. Nov. 7 at Monsanto Corp., followed by a seminar from 1:30 to 2:30 p.m. in the School of Medicine's Philip Nordeman Library, Room 3007 in the South Building. The second half of the workshop, a computer lab for data base search strategies, will be held from 8 a.m. to noon Nov. 8 at the School of Medicine Library in Room 6018.

According to Nicole Duffee, D.V.M., Ph.D., assistant director of educational services in the Division of Comparative Medicine, these alternatives promote good science and the efficient use of animals. Participants will be introduced to organizations and electronic media that will help them learn more about alternatives in animal research.

Duffee said a good example of reduction in animal use was demonstrated recently by the National Cancer Institute's (NCI) drug research and development program. A few years ago, the NCI reportedly was using as many as 4.5 million rodents a year to screen chemicals for anti-tumor activity. However, the standard animal model system was far from ideal. After much argument and debate, the NCI switched to the use of cell culture screening systems using human cancer cell lines. The program now uses between 500,000 and 1 million mice, an 80-90 percent reduction in animal use. Duffee said it should be noted that the decision to switch was made for scientific reasons rather than animal welfare, illustrating the point that the pursuit of alternatives is not, in and of itself, anti-science.

The U.S. Congress established AWIC, which is housed at the National Agricultural Library in Washington, D.C., in 1985. AWIC serves as an information resource on the welfare of animals used in research. Scientists rely on AWIC to locate appropriate model systems and avoid duplicate studies. The center makes available current bibliographies on a range of research-related topics, such as embryo and gene transfers and animal models in biomedical research. AWIC staff also can conduct customized data base searches and provide guidelines on how to search data bases for research alternatives related to animal studies. Duffee said an effective search for alternatives is not easy because of limitations in the coding of search terms used by scientific literature data bases.

Volunteers needed for hormone replacement study

Volunteers are needed for a multicenter study at the School of Medicine evaluating hormone replacement therapy regimens and doses in post-menopausal women. The medical school will recruit 25 area women to participate in the study.

Previous studies have demonstrated the benefits of hormone replacement therapy in post-menopausal women, such as prevention of osteoporosis and protection against heart disease. But no large-scale study has evaluated and compared different hormone replacement therapy regimens and doses. This new study is designed to do that.

The Upjohn Co. is funding the one-year study, which will involve 480 women from 15 medical centers nationwide.

"I think the key is that all women who are post-menopausal should be on some form of hormone replacement therapy," said Doug Williams, M.D., assistant professor of obstetrics and gynecology and the site's principal investigator. "In order to get more women to take the medication, there needs to be alternative ways of giving it because some patients will do well on one regimen and not on another."

Throughout the study, researchers will evaluate bone mineral density, growth of the uterine lining, serum lipid levels and monitor symptoms such as hot flashes.

The research may help physicians determine an optimal dosage of progestin that could help prevent pro-cancerous growth of the uterine lining and reduces side effects, such as headaches and dizziness, that some women experience after taking the drug, Williams said.

For more information, contact study coordinator Carol Cholena, R.N., at 362-4777.
shortly after noted National Institutes of Health researcher Robert Gallo, M.D., co-discovered the human immunodeficiency virus (HIV) in 1984, he summoned the help of Lee Ratner, M.D., Ph.D., as a fellow in his lab. Gallo needed someone to "spill out" the molecular sequence of HIV-the virus that causes AIDS. Ratner would play a critical role in understanding how HIV gradually destroys the immune system's ability to fight off infection and how future drug therapies might disarm the virus.

"Gallo came into the lab and told me, 'Here are the clones of the virus. Drop what you're doing and sequence them,'" Ratner recalled. At the time, Ratner was involved in a project to study a different virus, called HTLV-I, which causes a form of leukemia in humans. "I told Gallo that I didn't think I had the time to devote to the AIDS project," Ratner said. "But he pushed me into the best decision of my career."

Ratner is now a professor of medicine and molecular microbiology at the School of Medicine and is director of the National Institutes of Health (NIH) effort to sequence the AIDS virus. He was one of three NIH scientists who worked night and day for three months to determine the virus' molecular sequence.

The team, with Ratner as lead author, published its findings in January 1985 in the journal Nature. In all, 19 scientists contributed to the effort.

Ratner's research at the National Cancer Institute from 1983 to 1985 laid the foundation for his research projects at the School of Medicine. He is the only Washington University researcher to study the molecular control of HIV. His research focuses on how HIV infects human cells and how the virus replicates. Improved understanding of the molecular mechanism of infection and replication continues to lead to potential therapies for treating the disease.

"Recent research, I also has resumed studying HTLV-1, which causes a significant proportion of leukemia cases in Africa, the Caribbean, parts of Asia, as well as cases in the United States."

Ratner's quiet nature belies the intensity with which he approaches research projects, his colleagues say. He is focused and productive, all the while overseeing a lab with some 15 to 20 students.

When Ratner is not working in the lab, seeing patients or spending time with his family (he and his wife, Andrea, have five school-age children), chances are he may be on the handball court.

"He approaches handball the same way he approaches his research program," said Gerald Medoff, M.D., professor of medicine and chair for clinical affairs. "He's extremely competitive and he strives to be the best he can be. He definitely demonstrates that same commitment to everything he does."

In addition to his responsibilities at the School of Medicine, Ratner serves on the editorial boards of several journals, including AIDS, Virology, and Journal of Virology, and serves on the National Institutes of Health grant review study section on AIDS molecular biology and virology.

Ratner's research at the School of Medicine in 1985 has spent years poring over molecular clones of HIV to dissect every gene in the virus. He and his co-workers are now studying one HTLV-1 protein in particular, called Tax. "Dr. Ratner's work in the lab will serve as a vital link to future therapies against the AIDS virus," said William Powderly.

First studies in 1990 demonstrating that inhibiting the enzyme glucosidase can disrupt production of HIV. The inhibitor prevents sugars outside of the virus from being modified by glucosidase, a crucial step in HIV replication.

While Ratner spends the bulk of his time in the laboratory, he sees AIDS patients with hematology or oncology-related complications on a regular basis. These patients are typically very sick and in the later stages of the disease.

They also are a constant reminder of the challenges scientists face to successfully control AIDS. Ratner said his work in the lab helps him better understand how research may lead to improved therapies for treating AIDS and the disease's life-threatening complications.

"We see first-hand from our patients how drastic the complications of the disease are," Ratner said. "They give us renewed interest for approaching problems in the lab." For example, Ratner said many of his patients have very low blood platelet counts, a complication of HIV infection. Patients need a crucial role in blood clotting. Some scientists have suggested that HIV infection of platelet-precursor cells, called megakaryocytes, may be responsible for the small number of patients circulating in patients' blood. Ratner and his co-workers are just beginning a project to study how HIV gets into megakaryocytes. Their work may give scientists clues for ways to better treat this complication.

Ratner's work with the AIDS virus is setting the stage for his continuing research on HTLV-I. Ratner has developed the first infectious molecular clone of HTLV-I, which will help him dissect the virus and determine which component of the virus is responsible for triggering the development of leukemia.

The researchers have zeroed in on several proteins that may play a role in initiating the production of cells called T-cells associated with this form of leukemia. They are now studying one HTLV-I enzyme called the Tax protein, which appears to be intimately involved in the initiation of leukemia. Ratner's commitment to his work includes mentoring undergraduate and graduate students and postdoctoral students who conduct research projects in his lab. Working with students is one of the best parts of his job, said Ratner. "I learn as much from them as they learn from me. I like to give them the time and freedom to explore their own projects, their own ideas.""
**Exhibitions**

Biannual Faculty Exhibition. Features works by School of Art faculty. Oct. 28 through Dec. 18. Opening reception: 5-7 p.m. Oct. 28. Gallery of Art, upper garage. Steinberg Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

**Other Ballgame: Works on Paper**

Drawings by Ruth Harding, visiting artist, New York and Oaxaca, Mexico. Nov. 2-4. Bisby Gallery, Bisby Hall. Gallery hours: 10 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

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**Lectures**

**Thursday, Oct. 27**

7 and 9 p.m. Filmboard Feature Series. "Marianne & Juliane" (West Germany, 1982). Tompkins Lecture Hall. Cost: $3. For 24-hour Filmboard hotline, call 935-5983.

9 a.m.-4 p.m. weekdays; 1-5 p.m. weekends.
 **September 27—Nov. 5**

"An Other Ballgame: Works on Paper".

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**Films**

**Thursday, Oct. 27**

7 and 9:30 p.m. Filmboard Feature Series. "The Cook, the Thief, His Wife and Her Lover" (1990). (Also Oct. 29, same times.) Room 100 Brown Hall. Cost: $3. For 24-hour Filmboard hotline, call 935-5983.

5:15 p.m. "Shaft" (1971). (Also Nov. 5, same time.) Room 100 Brown Hall. Cost: $3.

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**Calendar guidelines**

Events sponsored by the University—in departments, centers, organizations and its recognized student organizations—are published in the Calendar. All events are free and open to the public, unless otherwise noted.

Calendar submissions should state time, date, place, sponsor, title of event, name of speaker(s) and affiliation, and admission cost. Quality promotional photographs with descriptions are welcome. Send items to July Rainald at Box 1076 (or fax 935-4243). Deadlines are 5 p.m. preceding the Friday call 935-4262.

The deadlines for all entries are Thursday one week prior to publication. Late entries will not be printed. The Record is printed every Thursday during the school year, except holidays, and monthly during the summer. The Calendar accepts topic area deadlines: one-time or ongoing deadlines; holiday schedules; or any other information, please call 935-4262.

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**Announcements of Three-manlifts**, Sergio Frieri, asst. prof. of mathematics. Room 199 Cupples Hall. 935-6726.

4 p.m. Seminars**

**Thursday, Oct. 27**

9:30 a.m. "Nanofluids—Sticky Equations," Marco Cannone, prof. of mathematics. Room 199 Cupples Hall. 935-6726.


4 p.m. Surgery seminar. "Application of Genetics to the Management of Colon and Rectal Cancer," Richard A. Busch, prof. of Dept. of Medicine. Room 841 Clinical Sciences and Research Bldg.

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**Environmental engineering seminars**

The Role of Nutrient Cycling in Improving the Environment, John J. Gisúres, assoc. prof. of chemical engineering. Room 226 Usher Hall. 935-8390.

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**Performances**

**Thursday, Nov. 3**

7:30 p.m. "Listen to the Shadows," a play by Richard Selter and directed by Henry Schelby, chair of Drama. (Also Oct. 28 and 29, same time, and Oct. 30 and 31, same times.) Room 100 Busch Hall. 935-5220. For 24-hour Filmboard hotline, call 935-5983.

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Newman Center, which provides religious support for students of all denominations. The center, at 6352 Forsyth Blvd., also offers classes in art, music, political science and social work in molecular genetics. He was the fourth Elvera and William Stuckenberg Memorial Lecturer and Surgical Grand Rounds. Sponsored by the Section of Colon and Rectal Surgery.

The changing face of Federal R&D.

"Interdisciplinary Symposium on Molecular Genetics and Office of Continuing Medical Education seminar. Continues Oct. 29 at 8 a.m. in Steinberg Amphitheater.

Friday, Oct. 28

11:45 a.m. Office of Continuing Medical Education seminar: R. R. B. Turnbull Memorial Lectureship and Surgical Grand Rounds. Sponsored by the Section of Colon and Rectal Surgery at Washington University's School of Medicine, Division of Molecular Genetics and Office of Continuing Medical Education. 

Saturday, Oct. 29

6:30 p.m. Annual Founders Day Banquet. Speaker is Paul Zahn, co-chair of "East West" and "Autobiographies," will read from his works. Hurst Lounge, Room 201 Duncer Hall. 

Sunday, Nov. 2

9:30 a.m.-1:15 p.m. Law school reunion mela. Proceeds benefit the United Way. Third Floor Courtrooms, Mudd Law Bldg. 935-6483.

Poetry reading. Alfred Corn, author of "The Way West" and "Autobiographies," will read from his works. Hurst Lounge, Room 201 Duncer Hall. 

This Week: 1:30 p.m. Saturday, Oct. 29, Football. Washington University vs. Case Western Reserve University, Francis Field. Season Record: 13-3-2 (5-0-1 UAA). 

Men and Women's Cross Country.

Season Record: 13-3-2 (5-0-1 UAA). 

Earning a pair of important UAA road victories, Washington captured a share of the UAA title — its fifth since the league's first year of competition in 1987. The men's team has won the last 10 games, while the women's team has won 12 of 13. Both teams could win the conference championship this weekend at the Indian Wells Recreation Center and the Botanical Gardens. 

At Case Western Reserve University, Francis Field. 

Compiled by Mike Wolf, director, and David Mootses asst. director, sports information.

Football.

Last Week: Rochester 22, Washington 21

This Week: 1:30 p.m. Saturday, Oct. 29, Soccer. Women's Finish: 1st of 9; Men's Finish: 2nd of 9.

Women's Volleyball

Last Week: Washington 3 (15, 15, 15), Colorado College 0 (4, 5, 7); Washington 3 (15, 15, 15), Illinois College 0 (8, 9, 4); Washington 3 (15, 15, 15), Nebraska Wesleyan 0 (6, 13, 15); Washington 3 (15, 15, 15), William Woods 0 (6, 13, 15). 

This Week: Saturday-Sunday, Oct. 29-30, UAA Championships, Field House. Season Record: 20-2 (14-1 UAA). 

The Bears extended their home winning streak to 36 consecutive matches by earning four victories at the UAA Championship at last weekend's Washington University National Invitational. 

Three Bears, including the All-tournament team, with Amy Albers, Washington, Mo., earning four individual player honors after hitting .300. Joining Albers on the honor squad were senior Anne Quaintance, Springdale, Ark., and junior Nikki Giltin, Roxlyn, N.Y. Over the weekend, Quaintance was named UAA Women's Volleyball Player of the Week by the conference. 

Men's Soccer

Last Week: Washington, 1-0; Emory, 0-0; Washington, 2-0; New York University, 1-0. This Week: 1:30 p.m. Saturday, Oct. 29, at Case Western Reserve University, Francis Field. 

The Bears close out the 1994 campaign against an important UAA road test. Washington University will play its third straight home game when it faces a tough UAA challenge for the first time in the season's first two matches. 

Men's Soccer

Last Week: Emory, 1-0; Washington, 1-0. 

This Week: 1:30 p.m. Saturday, Oct. 29, at Case Western Reserve University, Francis Field.
become more familiar with the different financing arrangements and the availability of financial aid. The GAS can carries up to 200 pounds of equipment and was designed to be easy to load and unload.

The experiment finally rockets into space on Oct. 27. Friday's activities focus on the Career Center, with a bon voyage party — will be held in the University's Lifelong Learning Institute, as well as in Greenbelt, Md. By then, Klein will be a University M.B.A. graduate with a degree in mechanical engineering.

Tony Fitzpatrick
Lifelong Learning Institute attracts older learners
U niversity College will inaugurate the new Lifelong Learning Institute on Tuesday (2 p.m., Monday, Oct. 31, at the West Campus, 4720 S. Kingshighway). The Institute is designed to provide non-credit educational opportunities for working adults, retirees and others who wish to continue their learning. The Lifelong Learning Institute is modeled after the successful learning programs at Stanford, Duke, Northwestern, Johns Hopkins, University of Miami, University of California at Los Angeles and Berkeley, and the Five College Consortium in Amherst, Mass. Dartmouth College is also opening an institute this year.

Washington University Record Multicultural weekend draws 60 prospective students to campus
T he first multicultural preview weekend of the academic year will take place Oct. 27-30 in conjunction with the University's Black Arts and Sciences Festival. The event has attracted about 60 prospective multicultural students, who will visit Washington University, St. Louis. Students will come from high schools in Memphis, Chicago, Milwaukee, Kansas City and Indianapolis, as well as St. Louis. The visit is designed to attract current students and will have the opportunity to sit in on classes, meet with administrators, tour the campus and St. Louis and get to know students on campus.

The following criminal incidents were reported to the Hilltop Campus Police Department Oct. 17-23. Readers with information that might help the investigation are asked to contact Campus Watch as a public service to promote safety awareness on campus.

Office has decreased staff by 20 percent. This is just one example of recent improvements to student services. Other examples, some of which will be detailed in future Record articles, include:

Front-line employees helped identify redundant steps and areas where automation would be more efficient.

Susannah Webb evaluate the experiment and begin the control experiment.

Front-line employees helped identify redundant steps and areas where automation would be more efficient.

• International students had a warm welcome.

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For The Record contains news about a wide variety of faculty, staff and student scholarly and professional activities.

**Of note**

James A. Britik, M.D., assistant professor, Howard P. Forman, M.D., former resident, and Joy P. Heiken, M.D., professor, all in radiology at the School of Medicine’s Mallinckrodt Institute of Radiology, received the Contrast Award from the Society of Computerized Tomography and Magneto Resonance. Their winning paper was titled “Reduction of Intravenous Contrast Material Required for Repeat Spinal Computed Tomography.”

N. Mohan Kumar, Ph.D., professor of mathematics, received the Ehrhart Award from the Council of Industrial and Scientific Research of India. He received the award for his contributions to commutative algebra and algebraic geometry.

David Schlessinger, Ph.D., professor of molecular microbiology and of medicine, received an honorary degree from the University of Uppsala in Sweden for his work as one of the world’s leading molecular geneticists. Schlessinger directs the Center for Cancer Research at the National Cancer Institute. His lab is involved in a major project to map the human X chromosome in order to analyze several genes involved in X-linked diseases.

**Speaking of**

Carl Phillips, assistant professor of both African and Afro-American Studies and English, will read his poetry before The Academy of American Poets in New York on Nov. 1. The program is titled “New Science, Rafael Campo, Suzanne Gardiner and Carl Phillips.”

**On Prize Assignment**

Several professors served as faculty members during the George Englembach Mathematics and Science Institute School Research Program. The program gives high school seniors an opportunity to conduct research with faculty from Washington University, St. Louis University and the University of Missouri-St. Louis. Washington University faculty who participated were: Richard L. Axelbaum, Ph.D., assistant professor of mechanical engineering; David A. Balazs, Ph.D., associate professor of psychology; D. Anne Cross, M.D., assistant professor of neurology; and Helen Donis-Keller, Ph.D., professor of both genetics and surgery and director of the Division of Human Molecular Genetics in the Department of Surgery; Jack R. Engberg, M.D., professor of both genetics and surgery and director of the Division of Human Molecular Genetics in the Department of Surgery; Jeffrey M. Giddity, M.D., assistant professor of neurology; Stephen L. Gluck, M.D., professor of both cell biology and physics; and Leonard M. Green, Ph.D., professor of earth and planetary sciences.

**Guidelines for submitting copy:**

Send your full name, complete title, department, institutional affiliation and your degree, along with a typed description of your noteworthy activity to For The Record, c/o Carolyn Mitchell, Campus Box 1070, or p72245cs@wumail.wustl.edu. Items must note the text format. For information, call Sanford at 935-5329.

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**W**ashington University will honor 13 alumni and one faculty member of the University community at this year’s Founders Day celebration on Saturday, Oct. 29, at the Adam’s Mark Hotel in downtown St. Louis. The banquet, which commemorates the birthday to 1970 from the Old College in Northwest, Minn., and a doctorate in microbiology and immunology in 1984 from Duke University in Durham, N.C.

**Alumni, Brooking awards to be presented during Founders Day**

Washington University will honor 13 alumni and one faculty member of the University community at this year’s Founders Day celebration on Saturday, Oct. 29, at the Adam’s Mark Hotel in downtown St. Louis. The banquet, which commemorates the birthday to 1970 from the Old College in Northwest, Minn., and a doctorate in microbiology and immunology in 1984 from Duke University in Durham, N.C.

**George Eberle Jr.**

Eberle was appointed executive assistant. He previously worked as a human resources manager and human resources analyst at the St. Louis University Anheuser-Busch Eye Institute. He also held a variety of administrative positions at the University of Illinois in Chicago for 20 years. Eberle received a bachelor’s degree in psychology from the University of Illinois in Chicago in 1977 and a master’s degree in human resources management from Washington University in 1993. He can be reached at 935-5164.

**Jack D. Minner**

Minner graduated from Washington with a bachelor’s degree in business in 1950. In 1960 and 1964, respectively.

**Terry L. Lengfelder**

Lengfelder received a bachelor’s degree in mathematics from Washington in 1964. He then began his career at the Famous-Barr division of the May Department Stores Co. He became May’s chief financial officer in 1981 and served president in 1990. He is chair of the board of Junior Achievement of Mississippi Valley and is a member of the board of the St. Louis Science Center Board of Commissioners. An interest in mathematics is shared with his wife, Carol, and his two children, who both earned degrees from the Jerome T. Loeb Mathematics Program at the School of Science in 1991.

**Jerome T. Loeb**

Loeb started his career at Washington in 1955 and received a bachelor’s degree in physics in 1955. In 1975, he and fellow alumnus Robert Schuff established the Minner-Schuff Foundation in 1981.

**For The Record contains news about a wide variety of faculty, staff and student scholarly and professional activities.**
human greenhouse gases and the possibility of global warming, and its consequences; and the difference between good and bad science.

As Dickhoff points out, "It's not a course where you say 'It's all rose and lovely.' It's a difficult course to teach because there are a lot of disturbing things to talk about — nuclear proliferation, global climate change, energy consumption. As an example, the number of people on the planet is a very important issue. If all countries worldwide consumed as much energy as we do in the United States, we'd run out of energy resources in no time. Students have never seen these issues put together like this; they're hearing things that they've never heard before, but not related to each other. This course can at least educate them a little bit.

Dickhoff, who initiated the course, says he did it out of a sense of responsibility. "Physics is something you can't avoid; it's all around us," he says. "I wanted to teach it in an Ivory Tower. Scientists should discuss the important energy and environmental issues that are a real problem. It's a practical course trying to make people aware of what's going on and how physics fits in with that."

Dickhoff -- a former member of Phi Delta Theta fraternity and St. Louis County Police Department -- says he plans to major in political science, and the course also is making him think about nuclear energy. "I'll want to get into a policy debate, say about nuclear energy, I feel I have a better background now to discuss the issue. So many people act from a level of ignorance. They hear nuclear energy and say 'Oh, that's bad,' or 'Oh, that's good,' without any real knowledge why.

Bender said students investigating how science can become an important component throughout the course. Many of them, especially interested in research, require students to address issues quantitatively: "I hope students come away from the course with an ability to think critically about what people are telling them and task to take responsibility for themselves."

The professors keep the course current and will change it as needed to accommodate something relevant in the news that day or week. The Star Wars initiative, for example, was a major concern for years, but that program lost steam, so did its relevance for the course.

In conclusion, the course not only has been an important component throughout the course, but also is an important component throughout the course. Many of them, especially interested in research, require students to address issues quantitatively: "I hope students come away from the course with an ability to think critically about what people are telling them and task to take responsibility for themselves."

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