

**DEPARTMENT OF GEOLOGY AND PLANETARY SCIENCE:**

*Unlocking the Mysteries  
of the Environment*

For more than 4.1 billion years, the Earth has existed with an inherent rhythm and energy, uninhibited by humans for the continuation of its life cycle. Now, with the world's population topping 6.94 billion people and extreme climate conditions occurring around the globe, geologists, environmentalists, and government officials are looking into what impact civilization is having on the environment. The debate rages on as to what exactly is causing the drain on the Earth's resources, what role society plays in this depletion, and what some viable solutions are for the world's population and nature to coexist without harming the delicate balance of life.

Through the environmental studies major offered by the Department of Geology and Planetary Science, students at the University of Pittsburgh have an excellent opportunity to discover the answers to many of these complex questions as they investigate what impact humans have on the biosphere, atmosphere, and hydrosphere.

Established in 1996, the Environmental Studies Program has become one of the most successful interdisciplinary majors at Pitt. With a comprehensive curriculum that encompasses three different schools at the University and numerous departments in the School of Arts and Sciences, students graduate equipped with the necessary tools to have successful careers in government, industry, advocacy, enforcement, education, law, and international policy.

The program has seen a steady increase in student enrollment, with 110 students currently enrolled in the major. "There is much more interest in environmental studies because of student awareness of and concern about the environment," explains Mark Collins, program coordinator and advisor. "Prospective students are well versed in environmental issues. Fifteen years ago, students were just discovering the program, but now they are coming to the University of Pittsburgh specifically for the environmental studies major. We are seeing a generational shift on green issues; students ask about the issues, and want to make sure that they are attending a green campus."

Funded by the Heinz Endowments, the environmental studies major reflects the current environmental movement by offering a diverse cross section of courses in biology, chemistry, geology, economics, calculus, statistics, environmental law, and environmental policy that provide students with an all-inclusive set of critical thinking and problem-solving skills.



Through elective courses and specialty areas, students work with faculty to create a program that provides a strong foundation in environmental studies while exploring their personal interests. Environmental studies majors can gain practical and technical knowledge by taking courses in geographic information systems (GIS). GIS courses allow students to create computerized visual representations of the physical world. The policy-driven specialty area enables students with an interest in environmental policy to interact with local governmental, research, and advocacy groups. The natural world specialty area focuses on core courses in biology, chemistry, geology, and geochemistry as well as electives in ecology and hazardous waste operations.

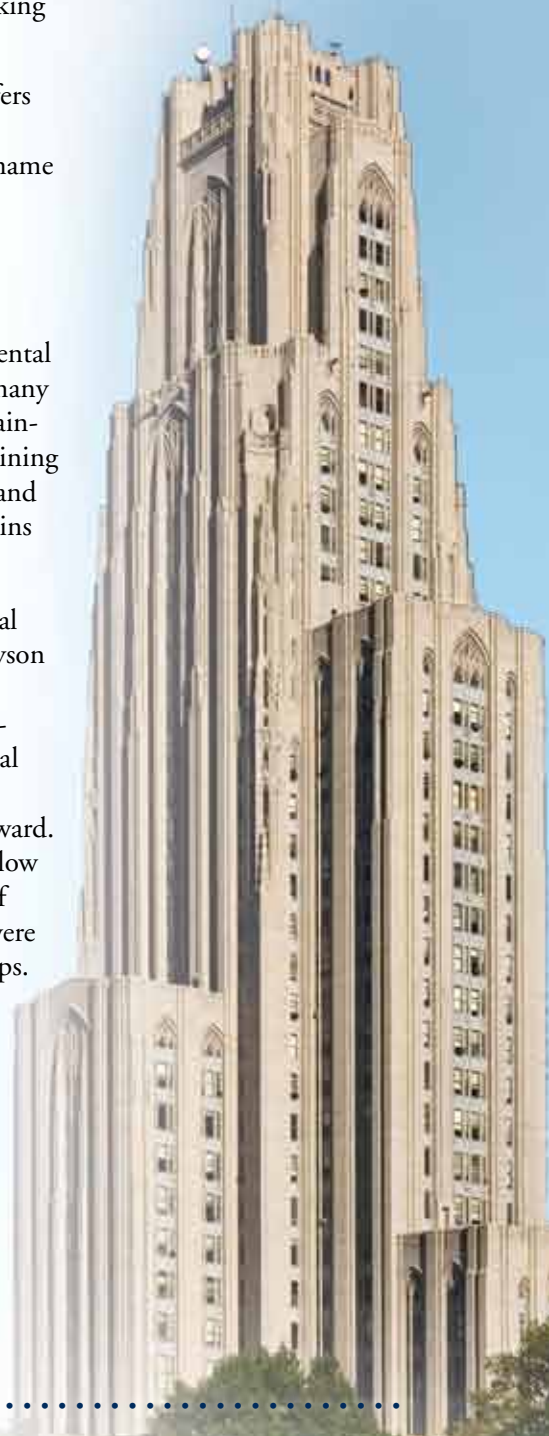
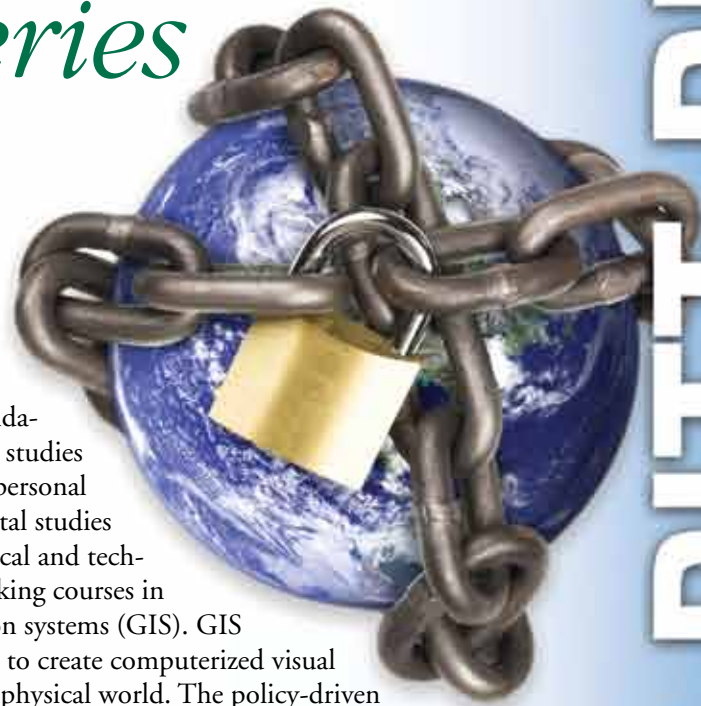
In addition to their regular course work, environmental studies majors are required to enroll in a field study course, such as the very popular Yellowstone Field Camp, offered through the University Honors College. "Unlike most colleges and universities, our program requires both an internship and a field-based class, where students totally immerse themselves in the geological, ecological, and cultural experience," explains Collins. "Through these specialized field camps, we provide students with an exceptional opportunity to apply their critical thinking and problem-solving techniques to real-life situations."

The Department of Geology and Planetary Science also offers majors in environmental geology and geology. For more information, visit [www.geology.pitt.edu](http://www.geology.pitt.edu) and click on the name of the major underneath the Undergraduate tab.

**DID YOU KNOW?**

- Students in the Environmental Studies Program initiated many of the University-wide sustainability projects, including dining without trays, composting, and the placement of recycling bins outside residence halls.
- In 2010, senior environmental studies and geology major Allyson Tessin, was one of only five University of Pittsburgh undergraduates to receive the National Science Foundation Graduate Research Fellowship Program award. Also in 2010, Tessin and two fellow students from the Department of Geology and Planetary Science were recipients of Fulbright Scholarships.

- The University of Pittsburgh Geology Club is open to majors and nonmajors with a common interest in geology and related topics. Some of the group's activities include a regular weekly seminar and mineral-collecting trips to such places as New York and Laurel Caverns in Farmington, Pa.



## MESSAGE FROM THE ASSOCIATE DEAN

### Center of Excellence

Standing at the heart of the University of Pittsburgh's campus we can see the majestic Cathedral of Learning. This iconic 42-story structure symbolizes the pursuit of higher learning and the achievements made possible through education, research, and public service. The Cathedral is the traditional home to many School of Arts and Sciences academic departments, programs, and administrative offices.

For students to excel at the highest levels, it is vital that they have access to all necessary academic programs, resources, and services. With those goals in mind, across campus from the Cathedral of Learning you can find a growing collection of buildings dedicated to Arts and Sciences undergraduate students that provide a comprehensive range of services to enhance their educational experience. Renovations are nearly complete for a student service center consisting of undergraduate studies offices in Thackeray Hall, the Gardner Steel Conference Center, and the O'Hara Student Center (formerly Concordia Club). This centralization of offices will enable students to work more closely with faculty, administrators, and advisors as well as to engage more actively with their peers.

Recent renovations in Thackeray Hall include the expansion of the Office of Student Records to provide a more student-friendly and personalized experience: a larger reception area that will house state-of-the-art computer kiosks and a plasma screen television. In addition, two popular undergraduate studies units will now be located in Thackeray Hall. The Office of Undergraduate Research, Scholarship, and Creative Activity (formerly the Office of Experiential Learning) and the Office of Freshman Programs can be found on the second and third floors, respectively. The Arts and Sciences Advising Center, College in High School, and the undergraduate studies administrative offices will remain in Thackeray Hall.

The newly renovated O'Hara Student Center will become the epicenter of the student experience. Updated meeting spaces, lounge areas, and dedicated office space for student groups will occupy many of the building's upper floors. Also located in the Student Center are the Writing Center and Math Assistance Center. In close proximity to the undergraduate studies offices and O'Hara Student Center is the Academic Resource Center, which offers a vast array of tutoring services, study skills workshops, and study groups to all undergraduate students.

As we begin the fall term, I invite you to tour our newly renovated student spaces whenever you are on campus, particularly during the School of Arts and Sciences open house and reception on Friday, November 4, from 4–6 p.m. in Thackeray Hall. Please feel free to stop by and speak with faculty members, senior administrators, and academic advisors.

May you have a wonderful academic year,

John A. Twynning  
Associate Dean for Undergraduate Studies



## FACULTY PROFILE

### Unraveling the Past

Magnificent rock specimens that are many millions of years old decorate the office of Charles Jones, lecturer and advisor in the Department of Geology and Planetary Science. To the untrained eye, these formations are nothing more than large masses of compressed plants and animal shells. For Jones, however, they represent a window into the past as well as a foretelling of future events. Each one is unique, and by examining the many layers of sediment, Jones can unlock the hidden treasures that lie beneath the rock's surface.

Jones' research involves the geochemistry of sedimentary rocks and fossils as applied to problems in paleoceanography and global climate change. Jones has worked at the University of Pittsburgh for 11 years and teaches a wide range of undergraduate geology courses for majors and nonmajors, advises students in the geology and environmental geology majors, oversees student laboratory courses, and manages the curricula for the geology and environmental geology programs. In addition, this former Rhodes scholar has written for many peer-reviewed publications and has published a widely used geology laboratory manual, coauthored with his father, that is now in its eighth edition.

He credits natural curiosity as to why most students become geology majors. "What is so fascinating about geology is that the subject matter is incredibly diverse. We integrate several fundamental sciences, including chemistry, physics, math, and even some biology, into our curriculum," explains Jones. "For instance, in my History of the Earth class, students draw upon their knowledge of physics to determine plate motions, of chemistry to create the elements of the periodic table and to understand the reconstruction of climate history, and of biology to understand how life has had a major role in shaping the history of the planet."

In his introductory geology class, Jones uses climate change as a way to illustrate how looking at past events and processes provides insight into the future. "Because the infrastructure that currently exists is based on what occurred in the last 100 years, we now have to deal with the depletion of groundwater and the effects of greenhouse gases," says Jones. "And, while the world will not end, these changes certainly will have an adverse effect on the environment and how society interacts with the environment."

Every summer, as part of the environmental studies curriculum, Jones treks out to Yellowstone National Park with a group of students, where he conducts the first 10 days of a month-long field study course offered through the University Honors College. Throughout the course, students study geology, biology and public policy as they hike through Wyoming. Jones also coordinates field trips that are closer to the University of Pittsburgh campus. He frequently takes students to examine the rock formations in Altoona, Chambersburg, and Gettysburg, Pa. "What truly is incredible is that by examining the rocks between Altoona and Gettysburg, we can infer that there was a continental split that occurred approximately 570 million years ago, three major collisions with other landmasses, and a final split between Africa and North America starting about 210 million years ago."

Whether he is out in the field or in the lab, Jones enjoys working with students the most because of the fresh perspective they bring to the subject matter. "I love the interaction with students. They are talented, highly motivated, enthusiastic individuals who bring new eyes to see the world."

## News & ANNOUNCEMENTS

- **ARC Month**

During the month of October, the Academic Resource Center (ARC) will offer special workshops to all undergraduate students to enhance academic success in natural sciences, social sciences, and humanities courses as well as offer workshops in reducing test anxiety and stress management. Workshops will be conducted on Tuesdays and Wednesdays at noon in the William Pitt Union. For more information, contact ARC at 412-648-7920.

- **Homecoming Festivities**

Mark your calendars for Homecoming Weekend 2011, October 14–16. The activities planned provide you with a chance to visit with your son or daughter and enjoy the University of Pittsburgh campus community. For details, including hotel and football game ticket information, visit [www.alumni.pitt.edu/homecoming](http://www.alumni.pitt.edu/homecoming).

- **Family Weekend**

Join the School of Arts and Sciences for an open house and reception during family weekend on Friday, November 4, from 4 to 6 p.m. in 140 Thackeray Hall. Arts and Sciences faculty, assistant deans, academic advisors, and other staff will be on hand to welcome students and families.

- **April Graduation Notice**

Students planning to graduate in April 2012 need to apply for graduation by November 11. Application forms will be available at the Office of Student Records in 140 Thackeray Hall beginning October 28.

- **December Graduation**

The School of Arts and Sciences will host a graduation reception and recognition ceremony for the Class of December 2011 on Saturday, December 17. An invitation will be mailed in mid-November to those Arts and Sciences undergraduates who have applied for December graduation. For more information, contact the Office of the Associate Dean for Undergraduate Studies at 412-624-6480.

## FUTURE LEADERS LEARN TODAY

# Sustainability Lessons Empower Student

One class, one faculty member, and one cause put senior Allison Plummer on a trajectory that would lead her straight toward fulfilling her dreams. The seed was planted during Plummer's freshman year in a sustainability class taught by Ward Allebach, an instructor in the Department of Geology and Planetary Science. That one class began her journey down a road of self-discovery that ignited her passion for environmental issues.

An environmental studies and urban studies double major with certificates in geographical information systems and Western European Studies, Plummer always had a peripheral interest in the environment. However, enrolling in Allebach's sustainability class proved to be the pivotal moment when Plummer realized that being a champion for the environment was her true calling.

"Professor Allebach's class was such an amazing experience for me because he believes that sustainability begins from the bottom up. He encourages students to be pioneers and bring green initiatives to the University," says Plummer. "He showed me that when there is a broken system, there are always ways that we can change the system. He teaches students to be independent thinkers and empowers us to find our own voice."

Inspired by this newfound interest in the environment, Plummer enthusiastically signed on as an undergraduate teaching assistant (UTA) working alongside Allebach. "What I love most about being a UTA is seeing students so energized, coming to class with big dreams and big ideas. However, just as in any real-life situation, ideas can be rejected, and that can be emotionally taxing on students. When students hit roadblocks or lose motivation, my primary role as a UTA is to guide them beyond those obstacles, to help them find new goals, and to remind them of their objectives."

Because of her passion, persistence, and philosophical ideals, the Department of Housing and Food Service hired Plummer as its student sustainability coordinator. One of her projects was researching the feasibility of placing outdoor recycling bins near student residence halls. With diagrams and budget in hand, she presented her findings to campus officials, and in 2010, the University responded to her request by placing blue receptacles near dorms for the proper disposal of glass, plastic, and aluminum.

"The idea of sustainability is to mimic the natural cycles; striving not to create unusable materials but to find ways to treat these waste products as resources. Recycling is an excellent example of a cyclic process, as opposed to the all too common linear process that is typical of our society," explains Plummer.

Plummer continues to foster awareness about important environmental issues serving as business manager for Free the Planet, a student environmental organization. She also is collaborating with the Office of Residence Life on creating an environmental Living Learning Community for incoming freshmen that she hopes will raise awareness about environmental issues as well as infuse students with the desire to bring new green initiatives to the University community.



## Pitt Goes Green

For more than a decade, the University of Pittsburgh has been committed to increasing sustainability projects on campus. The following are some of the many green initiatives already under way at the University.

### Energy

Numerous green projects have been completed in the residence halls, including the following: thousands of T12 fluorescent bulbs were replaced with the more efficient T8 bulbs; motion sensor lights were installed in all trash rooms, most lounges, and many hallways; and 2.2 gallon-per-minute aerators were replaced with 0.5 gallon-per-minute aerators in all residence hall bathrooms to reduce the sink flow rate by 77 percent.

### LEED Certification

The University is currently pursuing Leadership in Energy and Environmental Design (LEED) certification on several new construction and renovation projects.

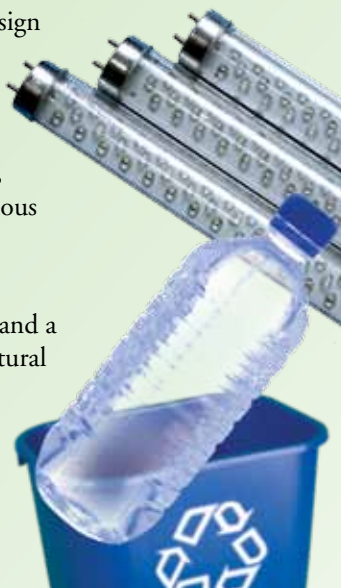
### Recycling

The University of Pittsburgh continues to expand its recycling efforts to include cardboard, aluminum, glass, plastics (grades 1–5), paper, batteries, cellular phones, and even iPods. These materials are collected in bins, boxes, and receptacles in various residence halls and buildings across campus.

### Water

In 2009, the University's Bellefield Boiler Plant switched from coal to natural gas, and a second plant, the Carrillo Street Steam Plant, recently began burning primarily natural gas, with state-of-the-art emissions controls allowing it to meet an ultralow metric oxide and nitrogen dioxide limit of nine parts per million. Pitt is believed to be the nation's only university to own a plant that meets this limit.

For more information on University-wide green initiatives, visit [www.pitt.edu/green](http://www.pitt.edu/green).



## UNDERSTANDING YOUNG ADULTS (LATE ADOLESCENTS)

by Mary Koch Ruiz, University Counseling Center

Leaving home for the first time can be an emotionally challenging time for both the student and his or her parents. Parents often are confused by their role in the life of their college-aged "child." They feel uncertain as to what normal behavior is, when to intervene, and what questions to ask. Understanding late adolescent development can be very helpful and comforting for parents before, during, and following their student's transition to college life.

Late adolescence (ages 18–22) is the stage of development in which individual identity versus role diffusion occurs. According to Erik Erikson's life span model, there are five elements of identity resolution that most young adults experience and experiment with:

**Experimentation with varied roles:** Students tend to believe that they are emotionally developed adults and can handle independence. However, they often lack the coping skills necessary to handle crises and quickly experience disequilibrium. Assistance from parents and/or guardians is needed to help them to manage their internal and external environments. Even though they are chronologically adults, they may, at times, feel overwhelmed and unable to navigate a minor crisis alone.

**Experiencing choice:** Young adults often have difficulty making decisions. They lack trust in themselves and fear that they will make the wrong decision. As parents, you can help by exploring options and possible outcomes but not dictating which option would be best to pursue.

**Meaningful achievement:** At this age, students want to become involved, and to contribute to and engage in relevant, important causes. It is important for them to create and implement positive ideas on their own. As parents, support their achievements. Let them know that you notice; ask questions to show that you are interested.

**Freedom from excessive anxiety:** Students feel anxious about their academic performance, peer pressure, social interactions, and relationships. To free themselves, some self-medicate with alcohol and drugs. Some release anxiety through cutting and other self-destructive behaviors. Be aware; do not close your eyes. Ask about sources of anxiety and normalize their emotions. Talk about healthy ways in which to cope with anxiety, such as exercising, journaling, talking, yoga, and being mindful of one's needs and the needs of others.

**Time for reflection and introspection:** When students leave home, it is not unusual for them to question their religion, beliefs, family relationships, and high school friendships. As parents, have constructive discussions; normalize their questioning rather than taking offense. It is the distance from home that gives them the space to reflect on what they have been taught in order to synthesize their own personal beliefs. They need your support and understanding.

Parenting involves having an understanding of the developmental stages inherent to late adolescence and balancing that with active listening, meaningful discussions, and affirmation. Parenting means helping students to develop the tools they will need to feel confident no matter what life throws in their path.

### RESOURCES

University of Pittsburgh  
University Counseling Center  
334 William Pitt Union  
3959 Fifth Avenue  
Pittsburgh, PA 15260  
412-648-7930

[www.counseling.pitt.edu](http://www.counseling.pitt.edu)

## IMPORTANT CONTACTS

Advising Center ..... 412-624-6444  
 Academic Resource Center ..... 412-648-7920  
 Office of the Associate Dean  
 for Undergraduate Studies ..... 412-624-6480  
 Office of Experiential Learning ..... 412-624-6828  
 Office of Freshman Programs ..... 412-624-6828  
 Office of Student Records ..... 412-624-6776  
[www.as.pitt.edu/undergraduate](http://www.as.pitt.edu/undergraduate)

Questions or concerns? E-mail us at [pittpride@as.pitt.edu](mailto:pittpride@as.pitt.edu).



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# Student Environmental Organizations Promote Green Living

The University of Pittsburgh offers students many exciting opportunities to participate in projects that promote sustainable campus life. The following are some of the organizations available to students.

**Free the Planet (FTP)** is a student organization that works on campus and in the community to foster awareness about important environmental issues while taking action to resolve them. FTP regularly organizes educational events, community service projects, and various action-based campaigns to accomplish this goal.

Operating out of an urban garden in the city's Oakland neighborhood, **Plant to Plate** aims to connect students with their food by enabling them to grow and cook it themselves and give back to the community by teaching others.

Pitt's **Greenpeace** chapter is part of the greater international organization that pursues environmental campaigns through peaceful and direct action.

Begun in 2010, the **Pitt Green Fund** is a student-controlled fund for novel and creative sustainability initiatives on campus. The **Student Sustainable Projects Committee** is a group of undergraduate students who allocate the Green Fund to student projects promoting sustainability and help to facilitate such projects.

**PittEnvironmental** is the digital hub of the student environmental community. It includes a community-authored news and discussion blog, community forums, an events calendar, and a library of past projects and documents. It is an excellent place to ask questions about Pitt's sustainability initiatives or to get more information on the groups listed above. Visit [www.pittenvironmental.org](http://www.pittenvironmental.org).



The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, as fully explained in Policy 07-01-03, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity and expression, genetic information, disability, or status as a veteran. The University also prohibits and will not engage in retaliation against any person who makes a claim of discrimination or harassment or who provides information in such an investigation. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, and access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

For information on University equal opportunity and affirmative action programs, please contact: University of Pittsburgh; Office of Affirmative Action, Diversity, and Inclusion; Carol W. Mohamed, Director (and Title IX, 504 and ADA Coordinator); 412 Bellefield Hall; 315 South Bellefield Avenue; Pittsburgh, PA 15260; 412-648-7860. For complete details on the University's Nondiscrimination Policy, please refer to Policy 07-01-03. For information on how to file a complaint under this policy, please refer to Procedure 07-01-03.

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For the online academic calendar, go to [www.provost.pitt.edu/information-on/calendar.html](http://www.provost.pitt.edu/information-on/calendar.html).

December	
5	Last day to withdraw from all classes in the dean's office
9	Last day for undergraduate day classes; spring term deadline for continuing students to register without a penalty fee
10-17	College of General Studies classes, all graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
12-17	Final examination period for undergraduate day classes
17	Fall term ends; official date for degrees awarded in fall term
18	Residence halls close
18-January 3	Winter recess for students (no classes); fall term grades must be approved by instructors by midnight on 12/20
21	Fall term grades available online
23-January 2	Winter recess for faculty and staff
3	University reopens
4	Spring term classes begin
16	Martin Luther King Jr.'s birthday observed (University closed)

September	
23	Deadline for students to submit Grade Option forms to the dean's office
October	
10	Fall break for students (no classes)
11	Students follow Monday class schedule
14-16	Homecoming Weekend
28	Fall term deadline for students to submit Monitored Withdrawal forms to dean's office; last day to resign from all classes with the Student Appeals Office and receive a partial refund
November	
4-6	Family Weekend
11	Deadline to apply for April 2012 graduation
23-27	Thanksgiving recess for students (no classes)
24-25	Thanksgiving recess for faculty and staff (University closed)

## CALENDAR OF EVENTS