2013 Illini Summer Academies
Descriptions, Restrictions & Fees

In 2013, we are offering 10 different academies – each providing 15 hours of interactive activities and study in a specific field of interest. **Space is limited** – each academy has set a maximum number of youth delegates they will accept. **Some have also placed a high school level restriction on their academy.** Spaces will be filled on a first-come, first-served basis. If an Academy is full when you try to register for it, you can email dstocker@illinois.edu and asked to be placed on a waiting list for that Academy OR you can register for another Academy of your choice.

Academies will be held at locations throughout the campus, including classrooms, labs, and the residence halls. Some academies may also provide off-campus visits in their curriculum. The **Career Options** that are listed below are only a sampling of the types of careers that college majors in this area can follow.

**NOTE:** The Academy sponsors reserve the right to cancel any Academy that does not reach a minimum number of registered delegates.

**Aerospace Engineering**
How do aircraft fly and spacecraft orbit? That question and others will be addressed in this hands-on Aerospace Engineering session. Delegates will conduct experiments in rocket propulsion, flight mechanics, and fluid dynamics. You’ll have the opportunity to design a spacecraft with a mission to Mars, and explore your creativity in our "What Would MacGyver Do?" challenge.

Career Options: Aerospace Design; Automobile Design; Flight Simulation; Satellite Development
Fee: Early-Bird $345  After April 15: $360
Minimum: 10  Maximum: 20
Restrictions: No repeat attendees.

**Art & Design**
See what it takes to be an artist/designer. This Academy will focus on three distinct areas: letterpress printing, observational drawing and time arts. Learn to print using a traditional letterpress and discuss traditional and contemporary bookmaking. Drawing will emphasize principles such as shape/form, linear/aerial perspective, scale/proportion, value/tonal range and pattern/texture. Time arts will introduce working with sound and video, including basic, short exercises in editing and the construction of narrative. All youth will work with faculty members in the University studios.

Career Options: Graphic Design; Industrial Design; New Media; Painting, Photography & Sculpture; Crafts - Ceramics & Metals; Art History
Fee: Early-Bird $320  After April 15: $335
Minimum: 10  Maximum: 30
Restrictions: None
**Creative Writing**
In this dynamic and creative program, students will write and discuss fiction, poetry and creative nonfiction, learning how and why to take the artistic process of writing to the next level. Sessions will include prompts, short readings, and mini-workshops in which each student’s work is discussed in terms of themes, strengths and direction. This Academy will also feature a session on literary publishing—students will tour the campus office of the University’s literary journal, *Ninth Letter*, where they will learn about submitting work to journals, editing, and how to read and understand contemporary literary writing.

Focus Options: Poetry; Fiction; Non-Fiction; Publishing; Literature Review; Professional Writing

Fee: Early-Bird $245 After April 15: $260
Minimum: 8 Maximum: 20
Restrictions: None

**Crop Sciences**
Crop science is an exciting field with many career opportunities where knowledge about plants, insects, biology, agriculture, genetics, plant pathology, horticulture and other topics are used to improve plants and their products and enhance agricultural production. Join this academy to: **explore** plant biotechnology, **discover** how to identify insects, **investigate** climate change and the effects on crops, **learn** about what makes peppers hot, go on field trips and more.

Due to a generous donation from **Pioneer Hi-Bred Inc.**, the registration fee for this Academy has been greatly reduced.

Career Options: Plant Biotechnology & Molecular Biology; Sustainable Food & Production; Agro ecology; Crop Agribusiness; Plant Protection

Fee: Early-Bird $165 After April 15: $180
Minimum: 10 Maximum: 30
Restrictions: No repeat attendees.

**Electrical & Computer Engineering**
Visit one of the top Electrical and Computer Engineering Departments in the nation. Explore the instructional facilities, labs and get involved some of the research activities such as Robotics, design of cell phones and computer chip design. Discover what nanotechnology brings to our lives.

Career Options: Robotics; Cell Phone & Computer Chip Design; Biomedical Imaging; Nanotechnology; Power & Energy Systems

Fee: Early-Bird $370 After April 15: $385
Minimum: 10 Maximum: 20
Restrictions: None
**Landscape Architecture**

Environmental design is an exciting pursuit for teens interested in how cities get planned, how natural resources are managed, and how landscapes and gardens connect people to the world. Participants will enjoy a variety of studio and field activities, and classroom discussions. Learn to analyze human behavior in urban places; “see” land-use and circulation patterns; use computers to analyze satellite maps; plan and build model neighborhoods. You will also learn about the profession and the program at University of Illinois.

Career Options: *Interior Landscapes; Environmental Considerations; Residential and Business Sites*

Fee: Early-Bird $285  
After April 15: $300

Minimum: 8  
Maximum: 18

Restrictions: No repeat attendance permitted.

**Leadership**

With the right training, teens can be very effective working with their peers and adults. Through active participation, Leadership Academy participants will focus on learning a variety of leadership styles, along with the pros and cons of each style and when different styles can be effective. Youth delegates will strengthen their communication and public presentation skills and learn how to manage resources and establish a budget for their organization. Help to dispel stereotypes through activities relating to disability and cultural awareness. Then you’ll be able to demonstrate your new skills while participating in a campus-wide Amazing Race experience with new Leadership Academy friends.

Focus Options: *Communication; Managing Resources; Working with Groups; Decision-Making; Leadership Styles; Cultural & Disability Awareness*

Fee: Early-Bird $245  
After April 15: $260

Minimum: 15  
Maximum: 50

Restrictions: None

**Natural Resources & Environmental Sciences**

The natural world is AMAZING and important to our everyday lives! Join NRES in exploring how ecosystems work from microbes to landscapes. You will learn how scientists study nature and how they work to conserve natural systems for everyone’s benefit. Come with us on field trips where you will learn how to take samples in the wild and then come back to lab to see what you found.

Career Options: *Conservation Biologist, Environmental Attorney, Environmental Consultant, Environmental Educator, Forester, Natural Areas Manager, Park Ranger, Soil Conservationist, Sustainability Coordinator, Wildlife Biologist*

Fee: Early-Bird $250  
After April 15: $265

Minimum: 6  
Maximum: 14

Restrictions: None
**Molecular & Cellular Biology**
Do you sometimes wonder “how living organisms work?”, “what is a cell and how does it function?” or “what are genes and what do they do?” By asking these questions, you are inquiring about the fundamental cellular processes that are at work in every one of us, and starting on the same path as researchers in Biological Sciences and Medicine. Join the School of Molecular and Cellular Biology to fulfill your curiosity and start exploring the marvelous complexities and inner workings of the cell. Participants will manipulate cells and their building blocks, such as proteins and DNA, using modern research laboratory techniques, while learning about the latest scientific discoveries that allow MCB researchers to discover answers to the above questions. Participants will spend time on: The effects of UV light on a bacteria population; How to insert a gene of interest into a population of bacteria; How to extract DNA & DNA Typing; Blood Typing; The eukaryotic cell; Enzyme Biochemistry. Participants will also have the opportunity to tour a research laboratory, learn about the research being done and meet the scientists.

Career Options: **Medical Fields; Biotechnology; Pharmaceuticals; Forensic Sciences; Veterinary Medicine; Disease Control**

Fee: Early-Bird $270 After April 15: $285
Minimum: 10 Maximum: 20
Restrictions: Must have completed sophomore year in high school. No repeat attendees.

**Veterinary Medicine**
Are you interested in animals, medicine, and science? Do you like helping people? Do you like unraveling mysteries? Do you like real challenges?

If you answered yes to these questions, then the wide world of veterinary medicine just may be for you. Veterinarians have a strong interest and ability in science. They enjoy working with people as well as with animals. Take a step into the world of veterinary medicine and see what veterinary school is like, learn about the different aspects of veterinary medicine, and more.

Participants in the veterinary medicine academy will learn about the science of veterinary medicine, anatomy, immunology, bacteriology, parasitology, wildlife medicine, large and small animal medicine, and more. Participants will participate in clinical equine rounds, streak and read bacteriology slides, learn about veterinary specialty fields such as dentistry, ophthalmology, and forensic pathology, and so much more.

Career Options: **Large and Small Animal Specialties; Equine Specialties; Wildlife Management; Veterinary Toxicology; Infectious Diseases**

Fee: Early-Bird $325 After April 15: $340
Minimum: None given Maximum: 25
Restrictions: Must have completed sophomore year in high school. No repeat attendees.