

Hendrix Programs in the Sciences and Mathematics*

Majors

Biochemistry/Molecular Biology

Biology

Chemical Physics

Chemistry

Computer Science

Mathematics

Physics

Pre-professional Programs

Dentistry

Engineering Hendrix participates in cooperative 3-2 engineering programs with Columbia, Vanderbilt, and Washington universities

Medicine

Pharmacy

Public Health Through an agreement with the UAMS College of Public Health, students can participate in a combined BA/MPH program

Secondary Teacher Education

Veterinary Medicine

* Any of these programs can be combined with any other Hendrix major or minor in the arts, humanities, or social sciences.





The Hendrix Formula

Faculty Mentors
+
Research
+
Odysseys
+
Full Spectrum

Rewarding careers and
acceptance by top graduate
and professional programs

There's no secret to our formula for your success. At Hendrix College, home of the nationally renowned Odyssey hands-on learning program, you'll find all the elements essential for your success in the sciences and mathematics.

Faculty mentors

100% of our science and mathematics professors hold Ph.D.s. And 0% of classes are taught by graduate assistants.

Research

100% of Hendrix science and mathematics majors have the opportunity and are encouraged to engage in research.

Odysseys

100% of Hendrix students engage in no fewer than three Odyssey active learning experiences — *guaranteed*.

Full spectrum

100% of students at Hendrix are multi-faceted individuals with more than one area of interest.

Rewarding careers and acceptance by top graduate and professional programs

The majority of Hendrix students enter graduate or professional school immediately or within a year of graduation.



“Getting to do undergraduate research as I did at Hendrix is unheard of at so many universities. That alone really prepared me for the research world.”

CHELSEY BRYANT '01, PHYSICS MAJOR
HENDRIX 3-2 ENGINEERING PROGRAM
M.S., AEROSPACE ENGINEERING,
UNIVERSITY OF COLORADO-Boulder

Change gears

At Hendrix, an open mind opens new doors of opportunity. You may come here with a passion for one area of science and graduate with a completely new focus.

Physics major Mallory Young had spent three years concentrating on **astrophysics** when she won a Research Experience for Undergraduates (REU) national grant for Odyssey summer research at Purdue, assisting in the development of the world's largest telescope. But she was surprised that her work turned out to involve **meteorology**, not the stars. And she discovered a new passion for earth sciences, which led her about as far from the stars as you can get – to **seismology**. She's now working on a seismology Ph.D. at the Australian National University with the goal of a career with the National Earthquake Hazard Reduction Program.

Break new ground

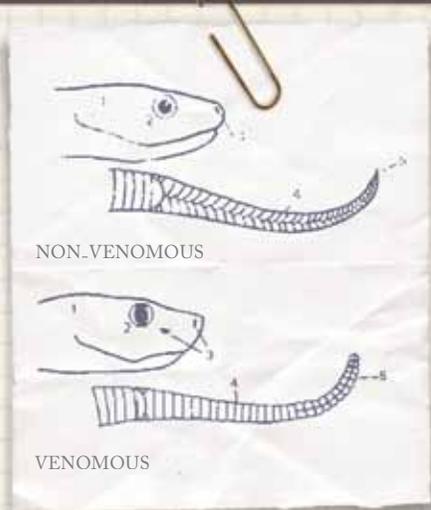
Supported by faculty mentors, you'll find the confidence to succeed at new challenges.

Biochemistry and **molecular biology** major Allison Watts was the first student to do research for a new collaborative faculty research project, involving the analysis and comparison of venom components from different snake species. Even though she had no previous work on which to build, Allison developed several quantitative enzyme assays, optimized the reactions for small venom volumes, and performed analyses on snake venom samples.

Explore all your interests

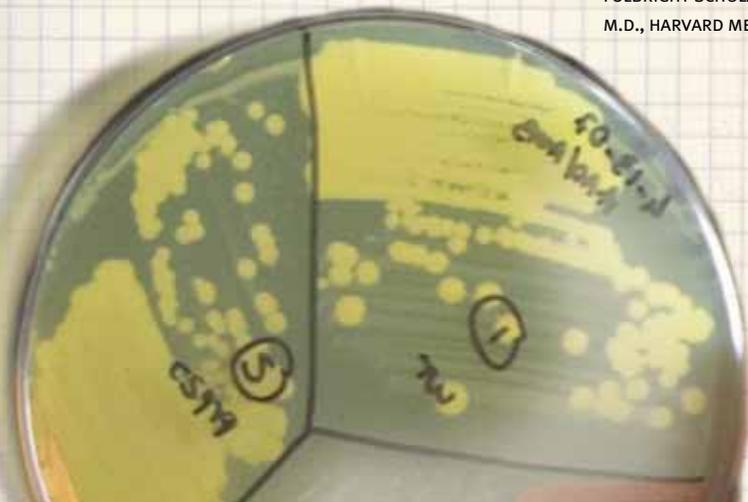
You can play a varsity sport, lead a campus organization totally unrelated to science, study abroad, and engage in all sorts of activities that help you develop personally and socially, as well as academically.

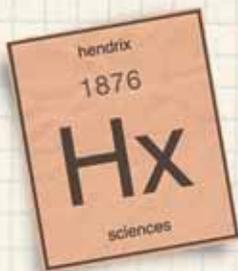
While at Hendrix, **chemical physics** major Luke Erickson '09 sailed from Mexico to Tahiti with the SEA Semester program through Woods Hole Oceanographic Institution, started an organic garden, and did original work on laser photodissociation of mass-selected molecular cluster ions. He is now a graduate student in mechanical engineering at the University of Colorado, working in the area of biofuels production.



"At Hendrix, I received a solid grounding in the sciences necessary for success in medical and graduate school. But critical thinking skills were also emphasized, something vital to success in hospital wards and the research lab."

RUSSELL ROBERSON '99,
MOLECULAR BIOLOGY MAJOR
FULBRIGHT SCHOLAR
M.D., HARVARD MEDICAL SCHOOL



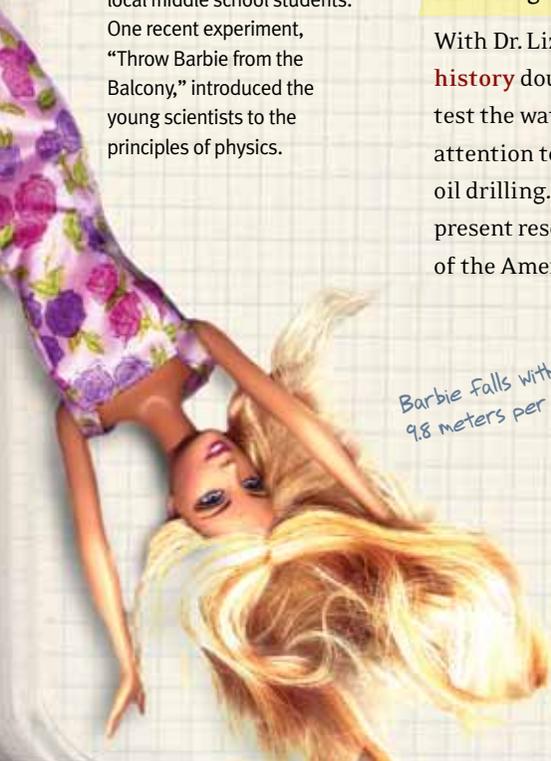


Throw Barbie from the Balcony

Sharing your knowledge of science and math with others, especially with younger students, can be just plain fun.

Through an innovative, outreach Odyssey, "Ridin' Dirty with Science," Hendrix science majors create interactive experiments that bring basic scientific principles to life for local middle school students.

One recent experiment, "Throw Barbie from the Balcony," introduced the young scientists to the principles of physics.



Barbie falls with an acceleration of 9.8 meters per second per second.

Design your own major

Your professors will collaborate with each other and with you to help you create a customized academic program.

Winn Haynes created an individualized major in **bioinformatics**, combining courses in **biology**, **computer science**, and **mathematics**. He completed an outstanding class project in artificial intelligence, writing a program that used genetic algorithms and neural networks to automatically identify the presence of cancer based on mass spectroscopy. Winn presented this project at a computer science conference. He also did research at the University of Washington and published a paper on his work there.

Contribute to the community

At Hendrix, even as an undergraduate, your scientific knowledge can benefit the surrounding community.

With Dr. Liz Gron, Leanne Mathurin, a **chemistry** and **history** double major, used high-tech instruments to test the water quality of two local lakes, with special attention to the potential impact of regional shale oil drilling. She was one of 17 Hendrix students to present research results at the 2010 National Meeting of the American Chemical Society in San Francisco.



Make new connections

Double majors are common at Hendrix, helping you to become an original thinker.

John Christie found a correspondence between the chemical point groups he studied for his **chemistry** major and the abstract algebra groups that he studied for his **mathematics** major. His research was entitled “Understanding Chemical Point Groups from a Mathematical Perspective.”

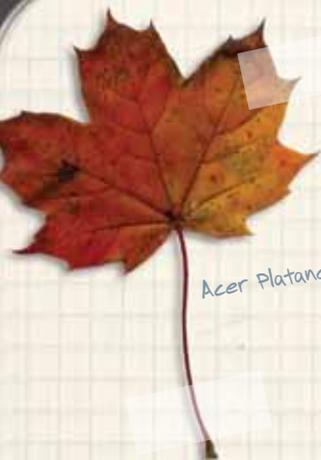
Innovate

When exploring the answers to new questions, you'll be inspired to create new methods to do so.

Using a new scientific procedure that he invented, **biology** major Andrew Kryder studied the ability of several mammals to see different wavelengths of light. He used eye tissue samples from coyotes, bears, foxes, raccoons, and cats for the study.



ind
tho-
dy,
ate-
17
ry
15



Acer Platanoides

Faculty mentors

Hendrix faculty members in the sciences and mathematics are active professionals and involve students in their ongoing research interests, which are often funded by the NSF, NIH, NASA, and other major institutions.

In fact, Hendrix Professor of Chemistry Tom Goodwin was one of two professors in the U.S. to be recognized with a 2010 Council of Undergraduate Research (CUR) Fellows Award. He was chosen on the basis of his outstanding record of obtaining funding for collaborative research with students and for publishing research results with undergraduate co-authors.

Current examples of Hendrix faculty research include:

- Developing a 51-meter ring laser gyroscope to measure seismic waves and related phenomena
- Researching the role of histone proteins in regulating gene expression
- Measuring the thrust and specific impulse of hybrid rockets
- Exploring the structure of the universe at a scale smaller than the nucleus of an atom
- Identifying and characterizing the genes involved in the development of the nervous system
- Investigating signal and image processing techniques, with an emphasis on optical character recognition
- Studying high-quality streams in Arkansas to determine their biodiversity
- Investigating the effects of prenatal steroids on breathing muscle development
- Studying how the nervous system forms during embryological development
- Examining the evolutionary history of pines in the American West and Mexico
- Researching chemical communication among elephants and developing "green" organic chemistry
- Studying techniques for proving mathematically that a NASA robot will behave correctly in all possible situations
- Investigating organic reactions in high temperature/supercritical water



Facilities and resources

As a Hendrix student, you have access to all of the College's instrumentation, labs, facilities, and other resources for the study of science and mathematics. We have specialized labs for undergraduate student experimentation and student and faculty research in areas such as:

- Biochemistry
- Botany
- Cell biology
- Chemical characterization
- Ecology
- Electronics
- Engineering physics
- Environmental analysis
- Genetics and physiology
- Geophysics
- Holography
- Lasers and optics
- Microbiology/immunology
- Nuclear magnetic resonance
- Nuclear and particle physics
- Organic synthesis
- Robotics
- Theoretical physics
- Zoology



Hendrix off-campus study programs

Gulf Coast Research Laboratory, Mississippi

Receive biology credit for summer courses in ecology, botany, zoology, and the microbiology of marine microorganisms.

Semester in Environmental Science, Massachusetts

Learn about ecosystems and do research with professional scientists at the Marine Biological Laboratory in Woods Hole.

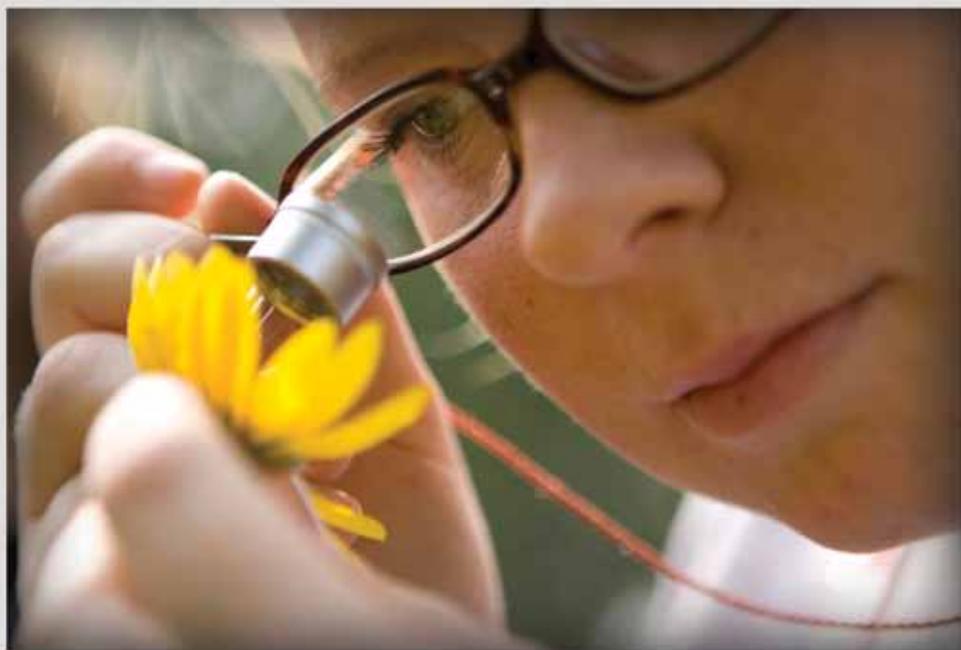
Southwest Desert Studies

Selected biology courses regularly incorporate field trips for firsthand study of the ecology and natural history of the American Southwest.

Summer in Costa Rica

Engage in intensive study of Latin American culture and environment while living in the Ecolodge, a mountain research station.





Research. Experiment. Discover for yourself.

Find out for yourself why Hendrix is so good at preparing students for successful careers in the sciences and mathematics.

We'll be happy to help you with your research. Just contact us and we'll provide you with more information and the answers to all your questions.

Most important – visit our campus and see all the resources we offer, not just in the sciences, but for all aspects of your life. You'll also be able to talk face-to-face with faculty and students who are involved in the academic areas and activities that interest you most.

Hendrix adheres to the principle of equal educational and employment opportunity without regard to age, race, gender, disability, sexual orientation, or national origin. Further, the College is committed to the maintenance of an atmosphere of civility and respect for all students, faculty, and staff.



HENDRIX

OFFICE OF ADMISSION

1600 Washington Avenue
Conway, Arkansas 72032-3080

PHONE: (501) 450-1362 or
(800) 277-9017

FAX: (501) 450-3843

EMAIL: adm@hendrix.edu

WEB: www.hendrix.edu

Vital Statistics

- ▶ 12:1 student-to-faculty ratio
- ▶ 18 students in an average-size class (most upper-level classes have far fewer)
- ▶ 100% of professors in the sciences and mathematics hold a Ph.D.
- ▶ 85% medical school acceptance rate (nearly double the national average)
- ▶ No other college or university in the country sends a larger percentage of its students to the annual National Conference on Undergraduate Research
- ▶ Hendrix ranks 28th in the nation for the percentage of its graduates who earn Ph.D.s in all fields*
- ▶ Hendrix alumni include: 6 Rhodes Scholars, 16 Fulbright Scholars, 27 Watson Fellows, 21 Goldwater Scholars, 2 Jack Kent Cooke Scholars, 2 Truman Scholars, and 1 Marshall Scholar

**Among 1,469 U.S. colleges and universities included in a National Science Foundation Survey of Earned Doctorates*

Interesting Hendrix Data Points

- ▶ Identified as the nation's #1 "Up and Coming" liberal arts college for 2010 and 2011 by *U.S. News and World Report*
- ▶ Chosen as a "Best Buy" by the *Fiske Guide to Colleges* for more than 25 years
- ▶ One of only 40 schools profiled in the best-selling guide, *Colleges That Change Lives*
- ▶ Featured in the 2011 edition of The Princeton Review college guide as one of the country's best colleges



HENDRIX

1600 WASHINGTON AVENUE
CONWAY, ARKANSAS 72032
WWW.HENDRIX.EDU