

Cutting-Edge Programs,
Smart People, Cool Research

FIND IT ALL AT ILLINOIS TECH

BE IT ALL BIOLOGICAL SCIENCES.

The biology program at **Illinois Tech** provides a rigorous and relevant education in the fundamental areas of biology including genetics, microbiology, cell biology and biochemistry, and structural biophysics. It gives you a firm foundation in the field, both in biological theory and experimentation, so that you may pursue many career paths after graduation.

The curriculum is interdisciplinary and flexible, allowing degree options in **biology, biochemistry, bioinformatics, molecular biochemistry and biophysics**, and **combined biology/psychology**.

Our alumni work in industry—for such companies as Merck, Unilever, AbbVie, Abbott, Baxter, Kraft, and GlaxoSmithKline—as well as in research and academia. Graduates have gone on to the University of Chicago, Northwestern University, Case Western Reserve University, Tufts University School of Medicine, the University of Illinois at Chicago, the University of Arizona, and more.

You can earn your bachelor's degree in biology, biochemistry, or bioinformatics, or earn a dual degree in biology and psychology. **Pre-med, honors law, and honors pharmacy** programs are available, as are **co-terminal degrees** (combined bachelor's and master's degrees) in biochemistry or biology paired with other disciplines. Three dual-degree programs offer pathways to a medical career in osteopathic medicine, pharmacology, or optometry.

Biochemistry

Biochemists, or scientists trained in both biology and chemistry, can pursue genetic or stem cell research, allowing them to be part of dramatic medical breakthroughs. They can study the body's immune system to help make advances in modern medicine. Or they can work in the commercial food industry to help discover ways to improve what we eat.

Bachelor of Science in Bioinformatics

Skilled biologists who are capable of handling massive amounts of data, performing in-depth statistical analysis, and programming are vital in the field of bioinformatics. Bioinformaticians help make important biological advancements by making sense of the glut of ever-expanding datasets.

Bachelor of Science in Biology/Pre-Medicine

Health care professionals make an impact on the lives of people on a daily basis. At Illinois Tech you will gain the tools you will need to advance to a medical, dental, pharmacy, optometry, or other health profession school.

We also offer these specializations:

- Pre-Health and Pharmacy concentrations and dual admissions programs
- Honors Law



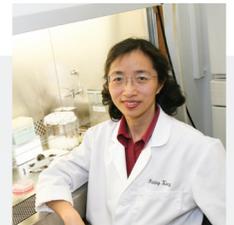
Biology/Psychology Double Major

B.S. in Biology/B.S. in Psychological Science

Earn two degrees simultaneously in this challenging program geared toward pre-health students. Neuroscience, brain science, and cognitive science all are at the intersection of biology and psychology. Our program helps set pre-meds and others apart for medical school or graduate school.

Research—Even As an Undergrad!

Undergraduates at Illinois Tech get the opportunity to work on major research right from the start. You might participate in a professor's research lab, work for a company in **University Technology Park**, or do an internship in the city. You may apply for a **\$5,000 Undergraduate Summer Research stipend** from the College of Science. Our new **Elevate** program consists of summer courses that allow all undergraduates to experience research early in their careers at Illinois Tech (the summer after your first year, or the summer before your first year for transfer students). **Current research areas include** physiology and biophysics of muscle contraction, cell and cancer biology, X-ray crystallography, computational genomics, population genetics and evolution, pathogenic microorganisms, tissue structure and biomechanics, and genetic therapy.



Jialing Xiang

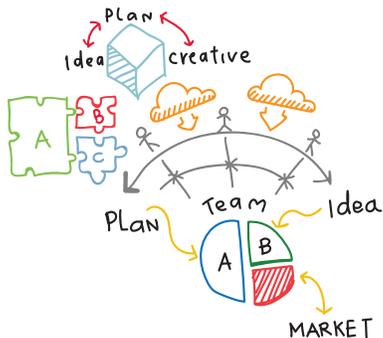
Professor of Biology
M.D. XuZhou Medical College
Ph.D. University of Alabama at Birmingham

Jialing Xiang's research team discovered a powerful tumor suppressor found only in cancer cells, suggesting the possibility that sick cells can generate a previously unknown protein that might be able to stop tumors from growing.

Researchers have known for some time that a common protein in the body is a key component in programmed cell death—a way that the body rids itself of potentially cancerous cells. When the body fails to express the protein, it can give way to tumor formation and resistance to chemotherapy.

Xiang's team discovered that, surprisingly, the combination of two "bad" things—two common occurrences in cancer—actually led to production of this new protein, which in studies showed signs of better response to certain chemotherapeutic drugs.

In addition to being a top researcher, Xiang has a system to identify potential undergrads to work in her lab and to tailor projects in her lab specifically so that each undergrad can meet his or her career goals. More than 95 percent of the undergrads who have worked with Xiang have successfully enrolled either in graduate school or found jobs after graduation.



Be an Innovator—IPRO and Project-Based Learning

In Illinois Tech's signature **Interprofessional Projects (IPRO) Program**, you'll work with students from various majors to solve real-world problems. This hands-on collaborative experience gives our students a big advantage after graduation.

Recent biological sciences-oriented IPROs include:

- Ultra-High Resolution Light Microscopy
- Using Vermiculture to Repair and Replace (Lost) Topsoil
- Innovating Solutions to Global Health and Well-Being
- Simulating and Visualizing Molecules Moving Through Biological Nanopore Sensors
- Raising Insects as a High-Protein Amendment to Animal Feeds
- Developing an Electro-Mechanical Computer-Controlled Wound Therapy Bed

STAND OUT.

Our graduates are far from ordinary.
But we expect them to be extraordinary.



Tim Zamb (BIOL '68, Ph.D. '78)—Leader in the global race to discover a viable AIDS vaccine, headed the AIDS Vaccine Design and Development Laboratory of the International AIDS Vaccine Initiative



George Langford (BIOL '69, Ph.D. '71)—Nationally recognized cell biologist and neuroscientist, professor and dean emeritus of Syracuse University's College of Arts and Sciences



Pooja Agarwal (Biochemistry/Rehabilitation Service Minor '16)
—M.D. candidate at the University of Illinois at Chicago



“ Studying biochemistry at **Illinois Tech** helped me understand how to think for myself. My professors and classes required me to do more than just regurgitate information. Instead, they pushed me to analyze information, identify trends, and determine conclusions that I could support. These abilities translate into all fields of work, and as a health care consultant, I know that the skills I developed at Illinois Tech were invaluable to my success. ”

— **Raghav Girijala** (Biochemistry '14)
M.D. Candidate, Texas A&M University

“I found opportunities to be involved in student organizations, conduct research on a debilitating disease, work, participate in international medical brigades, volunteer at the nearby hospitals, and live in a diverse city that has so much to offer.”

— **Evelyn Thomas** (Biochemistry '17)

2'Fer Advantage

Illinois Tech's special degree programs allow you to receive **both your bachelor's and master's degrees** in as few as five years.

- Bachelor of Science in Biochemistry/ M.S. in Food Safety and Technology
- Bachelor of Science in Biochemistry/ M.S. in Biology with Biochemistry Specialization
- Bachelor of Science in Biochemistry/ M.S. in Computer Science
- Bachelor of Science in Biology/ M.S. in Biology

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 **College of Science**
ILLINOIS INSTITUTE OF TECHNOLOGY