Biology and Psychological Science

Advances in science and technology have given way to the fascinating and growing fields of neuroscience and other disciplines that explore technology and its effect on the brain. Discoveries in these fields are opening doors to potential treatment of previously intractable disorders, and spurring ethical questions about whether it is permissible (or possible) to alter memories, enhance cognition, or read a mind.

Illinois Tech's B.S. in Biology/B.S. in Psychological Science program is an excellent academic and research pathway for students interested in neuroscience, brain science, or cognitive science. Illinois Tech's program is one of the only dual-degree programs of its kind in the country. Because it is firmly grounded in science and research, Illinois Tech's program is distinct from other similar types of degrees that center on liberal arts, giving it added value in the marketplace.

In this rigorous program you will receive a thorough education in both biology and psychology, and thus will be prepared for a wider variety of careers in either field, or at the intersection of the two. And because this degree is offered jointly through Illinois Tech's College of Science and Lewis College of Human Sciences, you will discover a diverse range of hands-on, interdisciplinary research opportunities. Such research is typically connected with post-grad work in this field—and Illinois Tech students experience it as undergraduates.

This program provides excellent preparation for graduate school, the MCAT, or tech positions in a variety of fields including neuroscience, brain science, cognitive science, medicine, public health, and genetic counseling or related areas, among others.

B.S. Biology/B.S. Psychological Science Program at Illinois Tech

Illinois Tech’s Bachelor of Science in Biology/Bachelor of Science in Psychological Science is ideal for students who are planning to pursue graduate school in studies at the nexus of biology and psychology such as neuroscience, brain science, or cognitive science. This dual degree offers competitive foundational preparedness for research but is also a good fit for pre-health students (pre-M.D., pre-clinical psychology, or psychiatry) who are interested in neurological or behavioral issues.

“\[I want to pursue a Ph.D. in neuroscience, and a dual degree in biology and psychology is a stepping stone to get there. I was able to participate in undergraduate research during my freshman year, which gave me a lot of useful laboratory skills and made me more confident in lab settings. I studied abroad during my junior year. Both have given me opportunity and life experiences that I am thankful to have.\]"

—Sydney Lamerand (Biology/Psychology 4th Year)
Collegeville, Pennsylvania

Sydney was a recipient of a College of Science Summer Research Stipend. She is a member of Colleges Against Cancer, works at the Cognitive Neurology and Alzheimer’s Disease Center, and is in the Alpha Sigma Alpha sorority.

STUDY IT—AND GET INVOLVED

Illinois Tech offers a variety of student group chapters for students interested in medical careers, including:

- American Medical Student Association
- Pre-Dental Society
- MEDLIFE (Medicine, Education, and Development for Low-Income Families Everywhere)

OPPORTUNITY AWAITS

While advanced degrees for medical scientists typically lead to a higher median pay (estimated at $84,810 in 2018), the U.S. Bureau of Labor Statistics forecasts a 13 percent growth in jobs for medical scientists generally from 2016-2026 (this includes neuroscientists and other professions involving investigative and clinical work aimed at improving human health).

RESEARCH ON THE EDGE

Just a few areas of Illinois Tech faculty research expertise in biology, psychology, and interrelated disciplines include:

- Cell and cancer biology
- Computational genomics
- Population genetics and evolution
- Pathogenic bacteria
- Tissue structure and biomechanics
- Genetic therapy
- Clinical psychology
- Rehabilitation and mental health counseling
- Industrial organizational psychology
- Behavioral health and wellness
- Social network analysis

RESEARCH—EVEN AS AN UNDERGRAD!

Undergraduates at Illinois Tech get the opportunity to work on major research right from the start. You might conduct work at nearby Argonne National Laboratory, participate in a professor’s research lab, or collaborate on a project at an area medical school. 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). The College of Science also offers $5,000 Undergraduate Summer Research Stipends to select students.
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 IPROs involving biology and psychology include:

- User interfaces for novel computer-aided drug design tools
- Innovating solutions to global health and well-being challenges via user-centered design methods
- Innovating assistive technology solutions for neuromuscular rehabilitation and physical therapy
- Creating a reliable sports player’s statistical performance evaluation methodology
- Applying mobile technology to enhance psychological research on depressive symptoms

“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)

Kathryn Spink
B.S. Michigan Technological University
Ph.D. Michigan State University

Kathryn Spink was the first recipient of the IIT Board of Trustees Undergraduate Teaching Award and received the Excellence in Teaching Award from the National Society of Leadership and Success. She is director of the pre-health professions program and a senior lecturer in biology. Spink is faculty advisor of the Illinois Tech branch of MEDLIFE (Medicine, Education, and Development for Low-Income Families Everywhere), an international humanitarian organization.

Arlen Moller
B.A. Cornell University
Ph.D. University of Rochester

Associate Professor of Psychology Arlen Moller’s lab researches how virtual environments, technology, and financial incentives can impact human behavior and health. One study looked at how online fantasy sports fans might convert their couch-potato habits into improved fitness. In 2017 Moller was granted a United States patent for the process of incorporating real-world physical activity into online fantasy sports games.

“"I found myself incredibly well equipped to continue learning in future years. I have found the courses set up for my degree to be highly relevant to helping me both increase my knowledge and continue to build up on what I had learned in previous classes. One of my favorite aspects of my degree program is the ways in which labs are incorporated and how they are used as both supplemental or separate classes to help emphasize important subjects covered during lecture periods.”

—Nadyah Mohiuddin (Biology/Psychology 4th Year)
Chicago

For the past two years Nadyah worked as a research assistant in Associate Professor of Psychology Arlen Moller’s lab. She also volunteers with a board-certified hematologist-oncologist and worked as a scribe. The public relations chair for the American Medical Students Association, Nadyah also was part of a medical brigade of Illinois Tech students who provided medical services to people in Peru through the MEDLIFE program.

*Faculty Excellence*

Kathryn Spink

Arlen Moller

*Preparring for Your Future*

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