STATISTICS

Statisticians are one of the most sought-after professionals today, in part because of the explosion of data in our lives. The U.S. Bureau of Labor Statistics predicts a 30 percent job growth for statisticians between 2018–28, making it the eighth-fastest growing occupation.

Illinois Tech’s new B.S. in statistics is a technically intensive and mathematically rigorous program designed to open career paths as statisticians, analysts, and data scientists in the fields of business, government, and academia.

Statistics students at Illinois Tech learn the fundamentals of mathematical and statistical theory, working with data and statistical models, perform and communicate statistical analyses, and study societal impacts and ethical issues of statistical practices.

Located just minutes from downtown Chicago, students can take advantage of internship and post-graduation employment opportunities the city offers as a global hub of finance, insurance, logistics, transportation, and even professional sports.

STATISTICS PROGRAMS AT ILLINOIS TECH

- **B.S. Statistics**
- **Minor in Statistics**

The Bachelor of Science in Statistics program features:

- Mathematical foundations of statistics
- Computational knowledge and skills
- Exposure to diverse interdisciplinary areas of statistics
- Opportunities for research with faculty

MASTER OF DATA SCIENCE

Data scientist is Glassdoor’s #1 job. A B.S. in Statistics at Illinois Tech can prepare you for a Master’s in Data Science program. Through Illinois Tech’s Accelerated Master’s Program, you can earn a B.S. in Statistics and a professional Master’s in Data Science in as fast as five years while maintaining your undergraduate scholarships and financial aid package.

WHERE MINORS ARE MAJOR

As a Statistics student, you will take a minor outside of the department—giving you an area of focus where statistics may be applied. For example, students can choose minors in computer science, biology, business, political science, entrepreneurship, artificial intelligence, economics, or finance. Our Statistics program is designed for maximum flexibility, allowing you ample opportunity to assemble a portfolio of courses that will satisfy your intellectual curiosity and prepare you for your career.

Students who pursue minors in mathematical finance or business may qualify for admission into our highly rated Master of Mathematical Finance program.

Students who pursue minors in computer science may qualify for admission into our highly rated Master of Data Science program.

RESEARCH—EVEN AS AN UNDERGRAD!

Statistics undergraduates at Illinois Tech have the opportunity to work on major research right from the start. 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). We also offer $5,000 Undergraduate Summer Research Stipends to selected students.

Recently, two AMAT undergraduates worked on research projects with assistant professor Sonja Petrovic, resulting in a research paper accepted by the SIAM Undergraduate Research Online journal. And in summer 2017 Tianci Zhu (Applied Math ’17) worked with Fred Hickernell, professor of AMAT, to develop financial applications that utilize the Guaranteed Automatic Integration Library.

“With applied mathematics and statistics, I love knowing that I will one day be able to directly apply the things that I learn in the real world. Applied math and statistics open the door to a wide range of opportunities in business, computer science, the life and physical sciences, and so much more. Also, the applied math faculty at Illinois Tech are incredibly committed to helping students succeed.”

— Tori Belotti (B.S. Applied Mathematics/Statistics, 2nd year)
Maximize Your Education

Illinois Tech’s accelerated master’s degree programs allow you to receive both your bachelor’s and master’s degrees in as few as five years, while maintaining your undergraduate scholarships and financial aid. Some examples of combinations are following, and students can choose other master program they are interested in.

- Bachelor of Science in Statistics/Master of Data Science
- Bachelor of Science in Statistics/Master of Mathematical Finance
- Bachelor of Science in Statistics/M.S. in Computer Science
- Bachelor of Science in Statistics/M.S. in Applied Mathematics

LEARN TO INNOVATE IN IPROS

In Illinois Tech’s signature Interprofessional Projects (IPRO) Program, you’ll work with students from various majors to solve real-world problems. Recent math and statistics-oriented IPROs include:

- Designing ball-and-stick models that communicate information about atoms to a computer Galilean test of the Einstein principle of equivalence
- Creating a reliable sports player’s statistical performance evaluation methodology
- Leveraging big data and analytics for innovative access control business opportunities

FACULTY SPOTLIGHT

Associate Professor Lulu Kang conducts research on uncertainty quantification, the science of quantifying and examining uncertainty in computational simulation systems. Kang develops statistical surrogate models from computer simulations she and her collaborators construct. Such surrogate models allow investigators to quickly understand a system’s strengths and weaknesses, generate more simulation results with cheaper costs, and achieve more efficient optimization of the system.

RESEARCH ON THE EDGE

With Ph.D.s from MIT, UCLA, Cornell, UC San Diego, and Vanderbilt University, to name a few, our faculty are pushing the boundaries of what we know in many areas, including computational mathematics, discrete applied mathematics, statistics, and stochastics. Our research seminars include:

- Nonlinear Algebra and Statistics
- Discrete Applied Mathematics
- Math Finance, Stochastic Analysis, and Machine Learning
- Computational Mathematics and Statistics
- Multiscale Stochastic Modelling and Computation

“The Statistics program at Illinois Tech promotes a deeper understanding of data exploration and its applications. Being part of this program has provided me with opportunities in research, and mentors I am excited to learn from.”

— Aleksei Sorokin
(co-terminal B.S. Applied Mathematics/ M.A.S. Data Science, 3rd year)