One college. Two campuses.

University of Illinois at Chicago
College of Pharmacy

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Chicago, Illinois 60612

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Rockford, Illinois 61107

pharmacy.uic.edu
If you are interested in pursuing an advanced, research-oriented degree, you’ll find **more than you expect** at the University of Illinois at Chicago College of Pharmacy.

Top domestic and international students are drawn to the College’s doctor of philosophy (PhD) degrees—focused on topics such as drug discovery, drug delivery and patient outcomes—as well as its rank for exceptional research, superior clinical experiences and quality faculty.

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### Vast array of research options

Faculty members collaborate with students to pursue particular research and career interests as they discover solutions to today’s pharmaceutical challenges. The College of Pharmacy also offers targeted career development services. Graduates are in high demand and choose from an array of interesting career paths. Aside from the departments, specialized areas of research at the College include:

- Institute for Tuberculosis Research
- Center for Pharmaceutical Biotechnology
- Collaborative Engagement in Novel Therapeutic Research and Enterprise
- Center for Pharmacoepidemiology and Pharmacoeconomic Research
- UIC/NIH Center for Botanical Dietary Supplements Research
- World Health Organization Collaborating Centre for Traditional Medicine

### Diverse research portfolio

The College of Pharmacy consistently ranks among the top 7 colleges of pharmacy in the United States for both extramural research funding and grants from the National Institutes of Health. Total research expenditures of the College of Pharmacy exceed $20 million annually.

The College of Pharmacy is dedicated to training researchers who contribute to the understanding of disease states and develop new therapies through multidisciplinary and translational methods. Faculty members are nationally and internationally recognized in their areas of study and more than 70 active inventions reside in the research portfolio. Faculty also engage in and include a variety of cross-departmental collaborations and appointments at UIC, with connections to neuroscience, bioengineering, medicine and others.

**Learn more at pharmresearch.uic.edu.**

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**Where do alumni work?**

- Academia
- Biotechnology
- Consulting
- Forensic science labs
- Government
- Healthcare organizations
- Pharmaceutical industry
- Research labs
Two campuses, one college

Students at the College of Pharmacy are members of a strong intellectual community of scholars with modern laboratories at two campuses.

**In the heart of Chicago:** Most graduate programs reside on the Chicago campus located in the Illinois Medical District, the nation’s largest concentration of public and private healthcare facilities. Excellent academic facilities and numerous state-of-the-art research laboratories provide a superb learning experience. Whether students choose to live on or off campus, they have easy access to social events, fitness centers, sports, theater and everything the Windy City has to offer.

**A close community in Rockford:** Graduate students can also study at the Rockford campus, participating in the same classes as their Chicago peers. They share facilities with the University of Illinois College of Medicine at Rockford, including a library, computer lab, auditorium, video conferencing classrooms, research laboratories and more—all located on a beautiful 20-acre wooded site.

Student snapshot

The College of Pharmacy’s graduate programs have a combined enrollment of 150 students.

**Background:** All students have completed a bachelor’s degree from a variety of disciplines including chemistry, biological sciences, pharmacy, engineering or related field. Degree candidates represent a mix of U.S. and international students.

**Financial aid:** Competitive financial support is available to admitted PhD students in the form of teaching and research assistantships. Many students also receive prestigious national and international fellowships.
Biopharmaceutical sciences

The biopharmaceutical sciences (BPS) curriculum revolves around an exciting, research-based program that trains interdisciplinary scientists to apply chemical and biologic tools to pressing therapeutic challenges. From pharmaceutics to nanotechnology, students learn to make meaningful contributions to an expanding body of knowledge.

**Scope of study:** A comprehensive and rigorous program encompassing research that:
- Determines new therapeutic targets and mechanisms of action (molecular pharmacology)
- Understands how a drug is metabolized and excreted (pharmacokinetics)
- Discerns how individuals differ in their drug reactions (pharmacogenomics)
- Develops novel methods for delivering drugs (pharmaceutics)

**Research emphasis:** Studies span both the basic sciences and clinical interests, including translational research. Some faculty members are involved with research centers beyond the College, including the University of Illinois Cancer Center. Research topics include:
- Lipid- and polymer-based drug delivery
- Molecular, cellular and systems pharmacology
- Targeted drug delivery
- Pharmacokinetics, membrane transport and absorption
- Microfluidics and medical devices
- Pharmacogenomics
- Nanomedicine
- Neuropharmacology
- Environmental and forensic toxicology
- Cancer pharmacology and genetics
- Regenerative medicine

**Degree awarded:** PhD
Forensic science

With a focus on evidence analysis in medical/legal investigations, this program prepares students for career positions in forensic science laboratories across the country.

Courses are taught by professors within the department of biopharmaceutical sciences at the College of Pharmacy and the program enjoys cooperative relationships with:

- Illinois State Police Forensic Science Center (second largest public forensic lab in the U.S.)
- McCrone Research Institute (internationally recognized educational and training facility in microscopy)

Scope of study for forensic sciences:
Students develop and integrate analytical and interpretive skills in criminalistics, including:

- Controlled substance identification
- Trace and materials analysis/comparison
- Forensic biology and DNA analysis
- Pattern evidence analysis and comparison
- Fingerprints, tool marks, firearms and questioned documents
- Mechanisms of toxicology and human performance
- Forensic drug testing and postmortem toxicology
- Ethical considerations in forensic science
- Courtroom testimony and procedures
- Issues in crime scene processing

Degree awarded: MS

“I chose the UIC Forensic Science Program since it provided a great overview of the different sections present in a working crime lab, such as patterned evidence, firearms and trace, as opposed to requiring a focus on either biology or chemistry. The relationship with the Illinois State Police Crime Lab was also an attractive feature, since ISP employees serve as teachers for the Forensic Science Program.”

Kate O’Brien
Milwaukee, WI
MS in Forensic Science, 2013

Find out more
Director of Graduate Studies
(312) 996-2250
forensicsdgs@uic.edu
Visit go.uic.edu/FSGrad for prerequisites and curriculum.
Medicinal chemistry

This distinctive degree emphasizes research in the development of synthetic drug compounds, offering students many rewarding avenues of study.

Scope of study: The challenging curriculum focuses on the discovery and development of biologically active agents with potential therapeutic applications. Students select one of five concentrations:

- Analytical and chemical toxicology
- Biomedicinal chemistry
- Computational medicinal chemistry
- Structural biology
- Synthetic medicinal chemistry

Degree awarded: PhD

“I sought out a degree in medicinal chemistry because I was able to fuse two disciplines, biology and chemistry. I am currently developing a novel mass spectrometry method for quantitation of antioxidants in grapes.”

Daniel Nosal
Park Ridge, IL
Medicinal chemistry PhD student

Research emphasis:
translational drug discovery

Medicinal chemistry and pharmacognosy faculty and students are deeply immersed in drug discovery. Current areas of research involve:

- Anti-infectives
- Biotechnology
- Cancer
- Neurodegenerative and related psychiatric disorders
- Women’s health
“Identifying the biologically active molecules in complex mixtures brought me to UIC’s pharmacognosy program. I love the scientific community here and enjoy working with Dr. Murphy on his interdisciplinary research.”

Skylar Carlson
Jacksonville, FL
Pharmacognosy PhD candidate

Pharmacognosy

Students with a variety of backgrounds come to the College of Pharmacy to study drugs derived from natural products based on plant, marine and other life origins. Pharmacognosy has a long tradition as an integrated pharmaceutical science and continues to be an attractive area of innovative research.

Scope of study: A rigorous, wide-ranging program that offers specialized tracks in:
- Natural products drug discovery
- Medical ethnobotany
- Biochemical and molecular toxicology
- Pharmaceutical biotechnology

Degree awarded: PhD

Find out more
Director of Graduate Studies
(312) 355-5583
pharmacognosy@uic.edu
Visit go.uic.edu/PCOGGrad for prerequisites and curriculum.
Pharmacy systems, outcomes and policy

With today's emphasis on both the cost and quality of health care, opportunities abound for graduates with a degree from the Department of Pharmacy Systems, Outcomes and Policy. Employers from the pharmaceutical industry, consulting companies, government agencies, managed care organizations, academia and others are increasingly interested in those who can integrate and apply knowledge in biostatistics and research design, with social sciences related to the assessment of pharmacy services, pharmaceutical products, patient and health system outcomes and health policy.

Scope of study: The program provides intensive coursework and research experiences in the social and behavioral sciences as they apply to pharmacy-related systems of care, pharmaceutical outcomes and medication use policy. Strong emphasis is placed on combining fundamentals of statistics and research design with theoretical frameworks from decision and information sciences, economics, epidemiology, communication, public health and education.

Research emphasis: The program features one of the largest and most diverse groups of pharmacy-based research faculty in the United States. Areas of research emphasis include:

- Health outcomes research
- Pharmacoepidemiology and drug safety
- Health-related quality of life
- Pharmaceutical education
- Pharmacoeconomics
- Pharmacy and health service and policy assessment
- Pharmaceutical education

Degree awarded: PhD

“Not only does the program provide me with the opportunity to collaborate with world-renowned researchers across a wide range of health science disciplines, but the small size of the program also creates a close-knit environment where graduate students are eager to help each other improve and the faculty are truly invested in your success.”

Patrick Zueger
Stockton, IL
PSOP PhD student

Find out more

Each graduate degree has different prerequisites and admission requirements. Therefore, you must apply for admission directly to your program of choice. Many graduate programs admit new students only in the fall semester. Applications, GRE scores and other required materials should be submitted no later than December of the year before you want to be admitted in order to receive full consideration for acceptance and financial support.

Our staff is delighted to meet with you, provide more information and host tours. Please contact us to schedule your personal appointment.

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