Is Medicinal Chemistry Right for You?
Do you dream of inventing a blockbuster drug that can make a big impact on human life? Do you want to be part of a team working on an exciting drug discovery project? Are you interested in drug analysis, drug synthesis and computer-aided drug design and drug action? This program may be right for you.

What Makes This Program Unique?
• You will build a strong foundation in traditional chemistry and then develop sound knowledge and practical skills to earn a B.S. in this specialized program.
• You will take such courses as analytical chemistry, medicinal chemistry, computational drug design, organic synthesis, and bioanalytical chemistry, helping to make you more competitive after you leave Illinois Tech.
• This is the only B.S. in medicinal chemistry program in Illinois, and one of only a handful in the United States.
• Earn a B.S. degree in medicinal chemistry plus have an option to get a B.S. degree in chemistry.

Learn lab techniques in drug design and synthesis and analytical medicinal chemistry that employers need.

Program Benefits
• Provides a strong educational background and specialized skills in medicinal and pharmaceutical chemistry.
• Teaches you hands-on lab techniques that employers need.
• Gives you practical lab skills in analysis and quality control and assurance (QC & QA) of pharmaceuticals.
• Educates you to be a viable candidate for professional positions in the biomedical, biotech, pharmaceutical, or medical industry or government labs.

What Is Medicinal Chemistry?
Medicinal chemistry is a specialized area of chemistry with an emphasis on a study of medicine, pharmaceuticals, and biomedical applications. A medicinal chemist can work at the interface of biology, biochemistry, and medicine.

You’ll learn how to apply chemical science to the analysis, action, design, safety, and discovery of drugs for the detection, treatment, and cure of human diseases.

Illinois Tech’s new chemistry majors allow you to build a strong foundation in chemistry, and then individualize your study to be competitive for specific career paths.

The new majors include bioanalytical chemistry; computational chemistry and biochemistry; environmental chemistry; forensic chemistry; and medicinal chemistry.

The new B.S. programs are highlighted in a recent issue of Chemical & Engineering News, a magazine published by the American Chemical Society: https://goo.gl/zmXs55
B.S. in MEDICINAL CHEMISTRY

Undergraduate Research Opportunities
Students may conduct research under the direction of chemistry faculty working on cutting-edge medicinal and pharmaceutical chemistry, including:

• Drug synthesis and imaging of cancers and other diseases (Professor Hyun-Soon Chong)
• Design and simulation docking of proteins and enzymes as targets for therapeutic drugs (Professor David Minh)
• Regenerative medicine and microscopic and atomic level characterization of biomaterials (Professor Rong Wang)

Career Pathways
• Become a medicinal synthetic chemist, a pharmaceutical analytical chemist, a process chemist, a formulation chemist, a toxicologist, or a medical marketing analyst.
• Work in the biotech, biomedical, biopharmaceutical, medical, or pharmaceutical industry
• Work in a research and development institute or government labs including National Institutes of Health (NIH), U.S. Food & Drug Administration (FDA), and U.S. Pharmacopeia (USP)
• Pursue medical or pharmaceutical graduate studies and earn an M.D. or a Pharm.D.

Internship and Scholarship Opportunities
Students in the program are encouraged to apply for internship and scholarship programs in academia, industry, and government, including:

• Research Experience for Undergraduates (REU) program, National Science Foundation (NSF)
• Summer Internship in Biomedical Research (SIP), NIH
• NIH Undergraduate Scholarship Program
• National Center for Toxicological Research (NCTR) Summer Student Research Participation Program, FDA
• Summer Oak Ridge Institute for Science and Education (ORISE) Fellowships, Centers for Disease Control and Prevention (CDC)
• Society of Chemical Industry (SCI) Scholars Internship program
• American Chemistry Society (ACS) Scholarship Program for African American, Hispanic, and American Indian students
• ACS Project SEED Scholarship
• Kilpatrick Undergraduate Scholarship, Chemistry Department, Illinois Tech
• Undergraduate Summer Research Stipend, College of Science, Illinois Tech

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