MECHANICAL AND AEROSPACE ENGINEERING

Armour College of Engineering at Illinois Tech has a 129-year legacy of educating engineering innovators and undertaking leading-edge research. Our degrees in mechanical and aerospace engineering expose you to a breadth of applications ranging from robotics, engines and rockets, manned and unmanned aircrafts and spacecrafts, driverless cars, biomedical devices, and batteries to refrigeration systems, solar and wind energy, turbomachinery, and many others. Our engineering education weaves fundamentals, design, and computations with laboratory experiences and application-based capstone projects including fabrication and testing. Our students are well prepared for both industry and future careers in academia. Illinois Tech alumni have advanced to careers as presidents of companies and professors at major universities, and as members of the National Academy of Engineering—the highest distinction in the field.

Our faculty have national and international reputations, membership in the National Academy of Engineering, journal editorships, and fellowships/major awards from all relevant professional societies.

Armour College programs are accredited by the Engineering Accreditation Commission of ABET. Attending an accredited institution is a requirement for licensure—an essential for professional success.

B.S. IN MECHANICAL AND AEROSPACE ENGINEERING PROGRAMS

Earn your B.S. degree in an area of greatest interest to you:

- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Aerospace Engineering

RESEARCH—EVEN AS AN UNDERGRAD!

Mechanical and aerospace engineering faculty are very active in funded research. Undergraduate students have ample opportunities to participate, either directly or with their professors, through the Armour R&D Program (see panel) or in Armour's Summer Engineering Research Immersion Program. Illinois Tech's Elevate program also provides research opportunities for students, some offering up to $5,000 in support.

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.

- B.S. Aerospace Engineering/M.E. Materials Science Engineering
- B.S. Aerospace Engineering/M.E. Mechanical and Aerospace Engineering
- B.S. Mechanical Engineering/M.E. Materials Science Engineering
- B.S. Mechanical Engineering/M.E. Mechanical and Aerospace Engineering

RESEARCH ON THE EDGE

Just a few areas of research expertise among Illinois Tech mechanical and aerospace engineering faculty include:

- Robotics
- Modern satellite navigation systems
- Automotive engines
- Wave propagation in solids
- Fluid dynamics
- Flow control in aircraft systems
- Transitional and turbulent shear flows in open systems
- Electronic component cooling
- Biomedical fluid mechanics
- Heat transfer in turbine engines
- Heat exchangers for power plants
- Batteries

“Here your professors know you by your first name. It helps to ease the stress because you know the professors care about how you’re doing and that you can get help when you need it.”

---

Tyler Grudowski
(Mechanical Engineering/ M.A.E. Mechanical and Aerospace Engineering '18), Orland Park, Illinois
Tyler and his IPRO team built a robotic arm for a standing wheelchair.

OPPORTUNITY AWAITS

Engineering at Illinois Tech is ranked #24 in the country among public and private universities for the return on investment for our graduates. (PayScale 2018; calculated after aid)
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 mechanical and aerospace engineering include:

- Automotive systems innovation, including adaptive-cycle hybrid vehicles
- Applying robotics to vertical farming
- Electrical vehicle design for on-road and space applications
- Solar power generation and integrated battery storage for a rural house
- Smart microgrid development for new and existing regions

Distinctive Education

At Armour College of Engineering, we integrate innovative thought, entrepreneurship, creativity, and design with engineering theory, research, and practice. You will get the chance to work on projects that are normally open only to graduate students—and have the opportunity to apply what you have learned in the classroom to some of the most complex problems facing society today.

We enhance our college’s already strong curriculum with lecture series, forums, interactive problem solving, professional site exploration, and team-intensive engineering projects focusing on four themes: water, health, energy, and security. As you take part in these theme opportunities, your activity is tracked in your own personal online portfolio for use as a supplement to your résumé or as additional material for your application to graduate school.

Having a complete understanding of the research and development process will also help ensure your success after you graduate. Our Armour R&D Program includes two programs: Program for Undergraduate Research Education (PURE), which focuses on research, and Mentored Innovation and Development (MIND), which focuses on developing research-based technology. Both programs aim to give undergraduate students a hands-on experience with research and development that is unique to Armour College.

All distinctive education programs are designed to give you a competitive edge and tangible experience in global issues. Be confident in the fact that when you graduate from Armour College of Engineering, you will already be working on relevant and impactful solutions.

Notable Alumni

Lois Graham (M.S. Mechanical Engineering ’49, Ph.D. ’59)—Illinois Tech professor and the first woman in the United States to earn a doctorate in mechanical engineering

Ed Kaplan (Mechanical Engineering ’65)—Co-founder of Zebra Technologies, a global leader in barcode technology

Bruce C. Liimatainen (Mechanical Engineering ’77)—Emeritus chairman and chief executive officer of A. Finkl & Sons Co.

Sanjay Kirloskar (Mechanical Engineering ’78)—Chairman and managing director of Kirloskar Brothers Ltd., industrial valve manufacturer

Anita Burke (Mechanical Engineering ’90)—Chief engineer for the GMC Grand Canyon and the Chevrolet Colorado

Jason Tenenbaum (Aerospace Engineering ’07)—Dragon mission director for SpaceX

FACULTY EXCELLENCE

Professor David Williams
With students, developing an unmanned plane as part of a multi-institutional collaboration for NATO

Professor Boris Pervan
Advanced navigation, guidance, and control systems of satellites, aircrafts, and driverless cars

Associate Professor Seebany Data-Barua
Space weather forecasting through imaging and estimation of the dynamics of the upper atmosphere

Associate Professor Matthew Spenko
Surveillance robots that can climb up and perch

Assistant Professor Carrie Hall
Advanced combustion engines, and implementation of alternative liquid and gaseous fuels

Distinctive Education

Engineering Themes

Lois Graham (M.S. Mechanical Engineering ’49, Ph.D. ’59)—Illinois Tech professor and the first woman in the United States to earn a doctorate in mechanical engineering

Ed Kaplan (Mechanical Engineering ’65)—Co-founder of Zebra Technologies, a global leader in barcode technology

Bruce C. Liimatainen (Mechanical Engineering ’77)—Emeritus chairman and chief executive officer of A. Finkl & Sons Co.

Sanjay Kirloskar (Mechanical Engineering ’78)—Chairman and managing director of Kirloskar Brothers Ltd., industrial valve manufacturer

Anita Burke (Mechanical Engineering ’90)—Chief engineer for the GMC Grand Canyon and the Chevrolet Colorado

Jason Tenenbaum (Aerospace Engineering ’07)—Dragon mission director for SpaceX