INDUSTRIAL & SYSTEMS ENGINEERING

INDUSTRIAL AND SYSTEMS ENGINEERS INTEGRATE DATA, EQUIPMENT AND ENERGY TO DESIGN, IMPLEMENT AND IMPROVE SYSTEMS.

QUICK FACTS

100% of students participate in industry designed capstone projects.

85% of students go directly into industry with a bachelor's degree.

Opportunities for internships, roles and hands-on research. More than 60% of students participate in undergraduate research.

ISE graduate program is ranked #22 in the nation according to *US News & World Report.*

WHAT DO INDUSTRIAL ENGINEERS DO?

Industrial engineers design, implement, and improve systems by accounting for people, environment, technology, and infrastructure. ISE faculty and students work towards solutions that enhance productivity, increase safety, and ensure best practices for society's overall well-being. They often rely on computer programming to attain these systems-level and people-oriented objectives in our modern technology-driven society.

If there is a better way, industrial engineers will find it—from improving the survival rate of cancer patients, and addressing societal issues like distracted driving, to optimizing the flow of products and services around the world.

WHAT PROBLEMS ARE INDUSTRIAL ENGINEERS TRYING TO SOLVE?

ISE prepares students for careers in an increasingly global economy. Students learn to take a systems approach to problem-solving and to recognize the larger societal impact of each engineering decision. Our students learn to:

- Develop decision-making models that can be scaled toward individual operators as well as broadened for large manufacturing enterprises.
- Gain insights into road user behavior to enhance the efficiency of the transportation network while also reducing injury and harm.
- Develop methods to help people before, during, and after emergency and disaster events.

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WHERE DO ISE ALUMNI WORK?

Career paths

ISE graduates work in many businesses and industries in operations research, applied statistics and production systems and human factors and ergonomics. Many ISEs are hired as project managers and move into supervisory or management roles where they continue to draw on their technical backgrounds.

Application areas

Air and Space – *Prototyping, lean manufacturing*

Health and Medicine – *Patient scheduling, diagnosis and treatment planning*

Infrastructure, Transportation and Logistics – *Improving flow, road safety, distribution of goods*

Robotics and Manufacturing – *Assembly design and control, robotics and process control*

Computing, Data, Digital Technologies – *Data analysis and visualization, product design*

Companies

Alaska Airlines, Amazon, Apple, AT&T, Boeing, Disney, Expedia, Ford, General Mills, Genie, Google, Honeywell, LinkedIn, Microsoft, Netflix, PACCAR, Philips, Port of Seattle, Starbucks, Seattle Cancer Care Alliance, Seattle Children's Hospital, UPS, Zillow

RESEARCH LABS

- **Scale-independent Multimodal Automated Real Time Systems (SMARTS) Lab** develops automated decision-making methods for cyber-physical systems to achieve optimal and robust performances.

- **Disaster Data Science Lab** leverages data to help others before, during, and after disasters.

- **Human and Systems (HAS) Lab** designs work systems that better accommodate individual differences.

- **Human Factors and Statistical Modeling Lab** designs systems to ensure all human operators are safe.
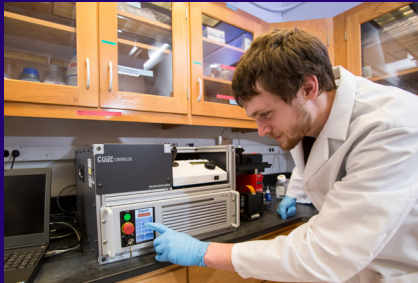
WHAT MAKES ISE SPECIAL?

ISE is a small and intellectually vibrant environment that offers its students unique opportunities pursue research and connect with industry professionals. Undergraduates complete senior design projects and apply their knowledge of industrial engineering to understand and solve real-world problems and learn how to structure and implement a design process that considers manufacturing constraints, ethics, and customer needs.

Graduate students work with faculty researchers and local industry partners to explore topics in healthcare, transportation and industry.

HOW CAN I LEARN MORE?

If you think ISE might be for you, we encourage you join one of the ISE affiliated registered student organizations. You can also start doing research in a lab even before placing into a major.