



## FORGING LEADERS AND INNOVATORS IN COMPLEX ENGINEERING SYSTEMS

### QUICK FACTS

85% of BSIE students gain employment after graduation, with 5-10% entering grad school.

The average salary for industrial & systems engineers in Seattle is \$117,800.

Over 40% of recent UW ISE grads landed their first job in air and space.

One of the fastest growing engineering fields.

100% of our students participate in industry designed capstone projects.

Industrial Engineering is one of the top-10 occupations for happiness and job satisfaction.

## WHAT DO INDUSTRIAL & SYSTEMS ENGINEERS DO?

Combining machine learning and artificial intelligence and human factors, ISEs analyze, design and optimize complex systems where people, engineering and information intersect.

## WHAT PROBLEMS DO INDUSTRIAL & SYSTEMS ENGINEERS SOLVE?

Industrial & systems engineers embrace a systems approach, considering both technical solutions and societal impacts to make every product, every service, more efficient, valuable and sustainable for all. Areas of focus include:

- Advanced Manufacturing
- Internet of Things
- Algorithm & Model Development
- Automation & Future of Work
- Climate Change Readiness
- Community Resilience
- Digital Health Transformation
- Pandemic Preparedness
- Smart and Connected Cities
- Supply Chain & Logistics
- Urban & Rural Air Mobility



# WHERE DO ISE ALUMNI WORK?

## Career paths

Dubbed the “Business School of Engineering,” ISE will equip you to manage multifaceted projects in industries ranging from manufacturing, robotics, cyber-infrastructure, transportation & logistics, healthcare and energy, to consulting, finance and business.

## Application areas

Air and Space – *Prototyping, airline operations, urban & rural air mobility*

Health and Medicine – *Digital transformation, vaccine & testing optimization, modeling & decision-making, ergonomics*

Infrastructure, Transportation and Logistics – *Equitable mobility services, autonomous & semi-autonomous systems, supply chain*

Robotics and Manufacturing – *Advanced manufacturing, internet of things, assembly design & control, digital twins*

Computing, Data, Digital Technologies – *Data analytics & visualization, e-commerce, product design, cybersecurity, virtual & augmented reality*

Environment, Sustainability, Energy – *Climate change readiness, smart & connected cities, renewable energy, community resilience*

## Companies

Alaska Airlines, Amazon, Apple, AT&T, Blue Origin, Boeing, Disney, Expedia, Ford, Genie, Google, Honeywell, Microsoft, Netflix, PACCAR, Philips, Port of Seattle, Puget Sound Naval Shipyard

## CAPSTONE PROJECTS

All ISE Undergraduates participate in industry-sponsored capstone senior design projects:

> **Design** wheelchair-accessible airplane cabins

> **Optimizing** supply chain systems for global e-commerce improving transportation safety and airline operations

> **Streamlining** the flow of patients in hospitals and improving the quality of treatments

> **Reducing** rework, waste and defects in manufacturing processes and products

> **Designing** workspaces where robots, materials and people interact



## WHAT MAKES ISE SPECIAL?

ISE is a close-knit, intellectually vibrant community, offering core classes and technical electives in machine learning, AI, data visualization, optimization, human factors and production systems. ISE students learn to master the power of data.

All undergraduates complete senior design capstone projects and apply their knowledge of industrial engineering to understand and solve real-world industry problems, and learn how to structure and implement a design process that considers manufacturing constraints, ethics and customer needs.

ISE also offers a degree option in Data Science, with core classes and technical electives to prepare students for careers in machine learning, data visualization and database design

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

## HOW CAN I LEARN MORE?

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

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