

# INDUSTRIAL AND SYSTEMS ENGINEERING

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**Industrial  
and systems  
engineering**  
is where **technology,  
people, business  
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intersect.**



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AUBURN UNIVERSITY

## At a Glance

By using the right combinations of human and natural resources, fabricated structures, information technologies and manufactured equipment, industrial and systems engineers look at the big picture of what makes organizations work best.



Areas of industrial and systems engineering:

- **Production and Manufacturing** — combines the design and operation of manufacturing systems. This includes demand forecasting, production method determination, material and inventory control, computer-aided design and lean manufacturing
- **Ergonomics and Safety** — uses principles of occupational safety engineering, including environmental concerns, and ergonomics in the evaluation and design of occupational work areas and processes
- **Engineering Management** — combines aspects of financial engineering and cost analysis, with an emphasis on design economics and cost estimating techniques that have applications to various manufacturing and service operations, including e-commerce
- **Operations Research, Statistics and Quality Control** — optimizes routing, scheduling, and analyzes system output. Uses mathematical models including linear programming, simulation and network flows to design systems. Includes data analysis, design of experiments, and quality control/six sigma
- **Information Technologies** — includes data modeling, simulation, database design, decision support tools, supply chain, and Internet-based tools for operations management

## Industrial and Systems Engineering

The Department of Industrial and Systems Engineering at Auburn University, one of 11 programs in the Samuel Ginn College of Engineering, has been granting degrees since 1931 and is ranked by the latest *U.S. News & World Report* in the top quarter of industrial engineering programs in the nation. The department has more than 4,000 living alumni, including many high achieving professionals from corporate executives to government leaders to entrepreneurs.

Auburn industrial and systems engineers are highly recruited by well-known companies and demand starting salaries comparable to other engineering disciplines. The U.S. Department of Labor projects a 10 to 20 percent increase in industrial engineering jobs by 2008.

Our percentage of female students is one of the highest of all engineering disciplines — between 40 and 50 percent. Our low student to faculty ratio, roughly 12:1, ensures personal attention and close relationships.

The industrial and systems engineering faculty has considerable industrial or governmental experience and are respected scholars in their field.

The 12-member ISE Alumni Council visits the Auburn campus twice a year, providing students with networking opportunities and insight into career options.



## Undergraduate Curriculum

- Bachelor of Industrial and Systems Engineering

Our undergraduate curriculum prepares students for professional practice in industrial and systems engineering and related fields by using case studies, real-world projects, and open-ended homework problems that help develop engineering and design abilities. Students participate in group activities and exercises as well as individual written and oral assignments. A senior design capstone experience takes place in an industrial or governmental organization during the last term of study.



## Employers of our Recent Graduates

Apple Computer, ExxonMobil, BellSouth, Alabama Power, DaimlerChrysler, Intel, General Motors, Honda, Hyundai, UPS, Delta Airlines, Briggs & Stratton, ChevronTexaco, General Electric, Pratt & Whitney, Walt Disney World, Xerox, Milliken, Accenture, Northrup Grumman, Boeing, Frito-Lay, BMW, and all branches of the U.S. armed services.

## Extracurricular Opportunities



Auburn Engineering students can participate in a wide variety of educational activities beyond the classroom, gaining experience with teamwork and project management.

Industrial and systems engineering students are encouraged to participate in campus chapters such as:

- Institute of Industrial Engineers
- Alpha Pi Mu honor society
- Society of Women Engineers
- National Society of Black Engineers

[www.eng.auburn.edu/organizations](http://www.eng.auburn.edu/organizations)

## Advising/Support Services

To ensure progress toward completion of degree requirements, the department chair and the department academic advisor are available to discuss and advise on curriculum choices and requirements. In addition, each student is assigned to a faculty member for informal consultation, personal guidance and professional advice.

Auburn Engineering is committed to helping students succeed. The following services are available at no cost:

- Study Partners mentoring program
- MentorNet e-mentoring network
- College of Engineering tutoring program
- BellSouth Minority Engineering Program tutors

## Scholarships/Financial Assistance

Loan and grant opportunities include:

- Pell grants
- Guaranteed student loans
- Research internships with professors
- Birdsong study abroad scholarships
- Departmental scholarships

As students progress, the number of available scholarships and grants may increase. Although some consideration is given to financial need, most scholarship awards are based on academic achievement.



## The Auburn Advantage

Solid academics and a campus with a strong sense of place make Auburn special. Our alumni recall a friendly, safe campus with a sense of family, caring professors, academic variety and challenge, and extracurricular activities that helped them grow into leaders.

- Classic college town atmosphere
- Outstanding instruction
- Hands-on lab projects
- Research opportunities
- Co-op education and internships
- Scholarship opportunities
- Mentoring
- Academic support
- Diversified faculty and student body
- Job search assistance
- Résumé service for alumni
- Variety of career opportunities

