

# Industrial and Systems Engineering Occupational Safety and Ergonomics Graduate Certificate

Auburn University's Department of Industrial and Systems Engineering offers a graduate certificate program that requires five courses in occupational safety and ergonomics (OSE) and is delivered online. Auburn's graduate programs in occupational safety and ergonomics are recognized by the National Institute for Occupational Safety and Health.

## EARNING AN ENGINEERING GRADUATE DEGREE ONLINE

At Auburn, earning a graduate degree or graduate certificate through the Auburn Engineering Graduate Online Program is easy and convenient, combining traditional classroom instruction with modern delivery via streaming video to offer educational opportunities beyond campus. Students can pursue a graduate certificate and/or master's degree at home or work while continuing full-time employment. Graduate online students utilize the same lectures, assignments and faculty as their on-campus peers. Auburn University's Engineering Online Graduate Program is ranked 20th in the nation by *U.S. News and World Report's* 2017 Best Online Graduate Engineering programs, and has been called "a high quality, accredited distance degree at tuition well below the national average."

Auburn Engineering Graduate Online Program  
[eng.auburn.edu/ose-grad-certificate](http://eng.auburn.edu/ose-grad-certificate)

## CERTIFICATE CURRICULUM

The following courses are part of the OSE graduate certificate program, which can be earned by both degree and non-degree seeking students:

**INSY 6010(6) Safety Engineering I (3 semester hours)** Lecture - Occupational safety engineering and management with emphasis on control of hazards, Occupational Safety and Health Administration, safety considerations in production facility design, and maintenance and operation of effective safety programs.

**INSY 7020(6) Safety Engineering II (3 semester hours)** Lecture – Systems safety analysis techniques including human error and reliability, fault trees and cost benefit analysis. Qualitative and quantitative risk assessment is emphasized throughout the life cycle.

**INSY 7050(6) Industrial Hygiene and Environmental Hazards (3 semester hours)** Lecture – Introduction to the basic concepts of industrial hygiene with emphasis on the industrial hygiene/safety interface and on the evaluation and control of noise and vibration stress.

**INSY 7060(6) Ergonomics I (3 semester hours)** Lecture – Overview of the human body systems and evaluation of the physiological response of the human body to occupational activities with emphasis on task design.

**INSY 7070(6) Ergonomics II (3 semester hours)** Lecture – Use of biomechanics in the evaluation and design of work activities. Emphasis is placed on biomechanical modeling, manual materials handling, tool design and repetitive motion trauma.

**INSY 7080(6) Human Factors (3 semester hours)** Lecture – Examination of human factors, ergonomics and safety research methodologies. Emphasis is on human information input, output, and control processes and optimized integration of the human into simple and complex systems.

**INSY 7940(6) Industrial and Systems Engineering Problems (1-5 semester hours)** Independent – Departmental approval required. Individual student endeavor under staff supervision involving special problems of an advanced graduate nature relating to occupational safety and ergonomics. Interested students must submit written proposal to OSE/IP faculty for approval.

**INSY 7970(6) Industrial and Systems Engineering Special Topics (1-5 semester hours)** Lecture – Departmental approval required. Special topics of a graduate nature pertinent to occupational safety and ergonomics. Specific prerequisites will be announced for each offering.

**INSY 8010 Advanced Safety Engineering (3 semester hours)** Lecture – Topics of current interest in occupational safety research. Occupational safety research methodology and research priorities. Recent course themes include, process safety management, mass transportation safety and human performance in emergency evacuation. Not available as an online course.

**INSY 8060(6) Advanced Ergonomics (3 semester hours)** Lecture – Topics of current interest in occupational ergonomics and human factors research. Occupational ergonomics and human factors research methodology and research priorities.

**PSYC 7700 Foundations in Industrial and Organizational Psychology (3 semester hours)** Seminar – This course is designed to be an advanced survey of the industrial and organizational psychology field. Not available as an online course.

**PSYC 7760 Occupational Health Psychology (3 semester hours)** Lecture – Occupational health psychology is an emerging interdisciplinary field concerned with psychological factors in employee health, safety and well-being. Not available as an online course.

## HOW TO APPLY

The graduate online program's application process includes completion of a Graduate School application, payment of the application fee and transcript submission. For a step-by-step guide to the application process, visit [eol@eng.auburn.edu](mailto:eol@eng.auburn.edu).

## TUITION AND FEES

Application Fee:     \$60 Domestic  
                              \$70 International

Engineering Course Fee per semester credit hour  
(Minimum required credit:15)     \$949 (effective Fall 2017)

For more information about billing, financial aid, military tuition assistance, transfer of credit, company payments and enrollment dates, visit [eng.auburn.edu/online/graduate-programs/tuition-fees](http://eng.auburn.edu/online/graduate-programs/tuition-fees)

## ABOUT THE DEPARTMENT

Auburn's Department of Industrial and Systems Engineering program is ABET accredited and has been granting degrees since 1932. The program is ranked among the top 25 percent of industrial engineering programs by *U.S. News and World Report*. The department's faculty are highly qualified academically and professionally, and includes experts who have attained advanced degrees from respected U.S. universities, as well as considerable industrial and governmental experience. The department also offers a master's degree in industrial and systems engineering (MISE) and a dual MISE/MBA degree — a shared program with the College of Business — through the online graduate program, as well as a doctorate, obtained in part online.

## CONTACT US

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## STUDENT EXPERIENCE

"I had a wonderful experience in the OSE online program. The faculty is very welcoming and makes everything seamless for online students, including the lectures, classwork and tests. When I needed direction, they were there to discuss options and listen. I have learned so much that I hope to bring to the workplace. I will always be grateful to Auburn for a wonderful learning experience. I highly recommend this program because of its top-notch instruction and student support."

Michele Corser  
OSEGC '16