Bachelor of Science

INTRODUCTION TO THE MAJOR

Industrial engineers find the most effective and efficient way to use basic factors of production—people, machines, materials, information, and energy—to make a product or provide a service. In Industrial Engineering and Operations Research (IEOR), we invent, analyze and teach tools and approaches for design, analysis, risk management, and decision-making in complex real-world systems like supply chains, energy systems, healthcare systems, and financial systems.

The department offers a major accredited by the Engineering Accreditation Commission of ABET. A minor in IEOR is available, as well as an Operations Research and Management Science major in the College of Letters & Science.

“\nThis world is full of challenges, and with an IEOR education I can tackle many—if not all—of them.\n”
— Jenny Cortez, IEOR Class of 2018

THE IEOR CURRICULUM

The core of the IEOR program includes basic science, mathematics including probability and statistics, engineering optimization, and stochastic models. This forms the methodological foundation for upper division IEOR electives involving the analysis and design of production and service systems, information systems, and human work systems and organization, among others.

AMPLIFY YOUR MAJOR

- Join an Engineering student group such as the Institute of Industrial Systems Engineers or Alpha Pi Mu.
- Take a Challenge Lab course such as IEOR 185.
- Enrich your studies with the Sutardja Certificate in Entrepreneurship and Technology.
- Build your skills with electives such as IEOR 142: Introduction to Machine Learning and Data Analytics or IEOR 150: Production Systems Analysis.
INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH
Bachelor of Science

DESIGN YOUR JOURNEY
SECOND YEAR

Explore your major
Meet with your ESS advisor to discuss your academic plans.
Familiarize yourself with major and college requirements.
Talk to the IEOR advisor about department programs and research opportunities.

Connect and build community
Take advantage of tutoring and workshops for Engineering students at the Center for Access to Engineering Excellence.
Discover student opportunities in the ESS newsletter and new student podcast.
Find study space and resources in the Kezar Engineering Library.

Discover your passions
Browse research taking place in Engineering centers, institutes, and labs.
Visit the Office of Undergraduate Research and Scholarships.
Discover new interests in a Freshman Seminar or student-run DeCal course.
Broaden your perspective by attending Newton Series or View from the Top Lectures.

Engage locally and globally
Attend the Calapalooza student activities fair and get involved with a student organization.
Explore Engineering student organizations.
Find service opportunities through the Public Service Center.
Explore study, internship, and research abroad options with Berkeley Study Abroad.

Reflect and plan your future
Visit the Career Center and Career Counseling Library.
Check out the Career Center Yearly Planner. Sign up for Handshake and CareerMail.
Explore career resources on the Engineering and Career Center websites.
Attend an ESS workshop to create a resume and LinkedIn page.

FIRST YEAR

WHAT CAN I DO WITH MY MAJOR?
The IEOR major prepares students for technical careers in production or service industries. It provides a strong foundation for those headed for engineering management positions or for those intending to go on to specialized graduate study in operations research, industrial engineering, or business administration.

Jobs and Employers

Graduate Programs
Business, Masters Computer Science, Masters, PhD Economics, PhD Engineering Science, Masters Industrial Engineering, Masters Operations Research, Masters

Examples gathered from the First Destination Survey of recent Berkeley graduates.

SECOND YEAR

Focus on upper division requirements and electives such as machine learning (IEOR 147) or production systems analysis (IEOR 195).
Continue meeting with your ESS advisor to review your academic progress.
Take a Challenge Lab course (IEOR 195), Data X (IEOR 195), or another project-based class.

THIRD YEAR

Meet with your ESS advisor to do an official degree check and plan for your final year.
Target your senior project towards your desired career or future education.
Complete any “bucket list” courses and remaining major, college, and campus requirements.
Complement your major with a certificate, course thread, or summer minor.

FOURTH YEAR

Learn how to be an ethical and inclusive global leader through the Leadershape Institute.
Experience life at another UC or college on a summer minor.
Apply for a research opportunity if you haven’t done so already.
Check out design and maker opportunities at the Sutardja Center and Skydock.

Fourth Year

Choose your post-baccalaureate plans based upon your intended industry and impact as an Engineer.
Serve as a student representative on a college committee.
Hone your leadership skills with the Peter E. Haas Public Service Leaders program.
Explore service opportunities after graduation, such as Engineers Without Borders, Peace Corps, Teach for America, or U.S. Department of State.

Attend career and graduate school fairs such as the STEM Career & Internship Fair.
Discuss graduate school options with advisors and professors. Make an advising appointment in ESS to explore a 5th year MSE, PhD, or DPhil.
Sign up for an ESS career workshop, networking dinner, speaker series, or career conference.

Ask professors and graduate student instructors for recommendation letters.
Go to Employer Info Sessions and On-Campus Recruiting.
Attend the job offer negotiation workshop in ESS.
Apply to jobs, graduate school, and other opportunities.