COLLEGE OF ENGINEERING

CHEMICAL, BIOLOGICAL, AND ENVIRONMENTAL ENGINEERING

BY THE NUMBERS
2016-2017

1,031
undergraduate students

138
graduate students

271
degrees awarded

29
tenure/tenure-track faculty

$8.9M
research expenditures

$2.2M
scholarship funds received

Oregon State University

About Our School

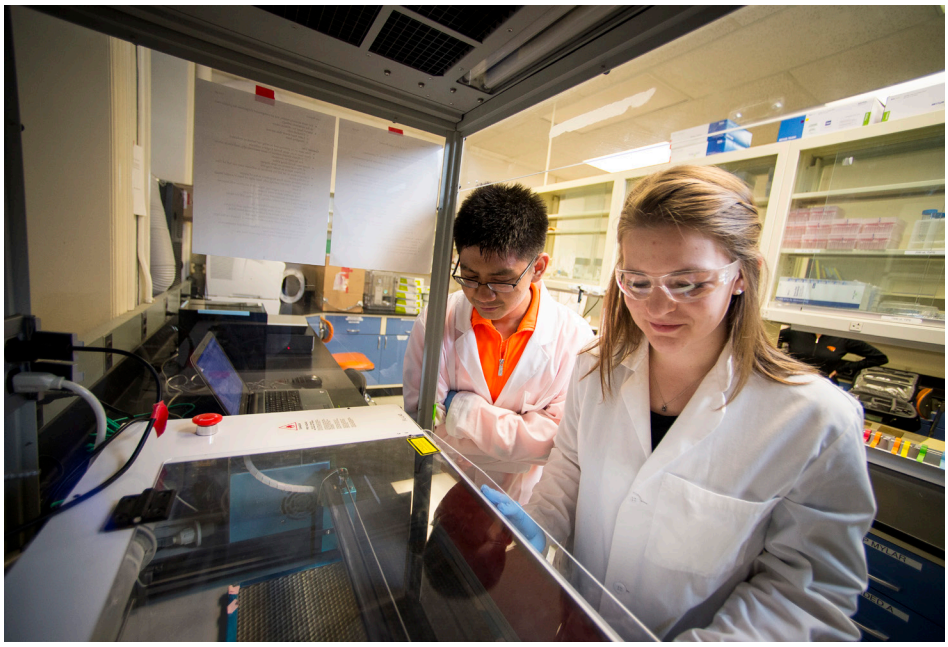
The School of Chemical, Biological, and Environmental Engineering at Oregon State University has its roots in one of the oldest and most respected chemical engineering departments in the western United States.

Our school is a hub for innovation in education and research for the process engineering sciences, emphasizing the integration of chemical, biological and environmental engineering principles and practice to provide work-ready graduates and technical solutions for a sustainable future.

We offer ABET-accredited undergraduate programs in bioengineering, chemical engineering, and environmental engineering, as well as graduate programs leading to Master of Engineering, Master of Science, and Ph.D. degrees.

Our undergraduate curriculum emphasizes collaborative learning, a personalized learning environment, and hands-on, real-world laboratory and engineering design experiences. Our graduates gain the technical and leadership skills needed to excel in careers with traditional industries such as chemical manufacturing and waste treatment as well as emerging industries in the semiconductor, biotech, and health care sectors.

Faculty-led research seeks to engage industry and achieve global impact, particularly in nationally-strategic areas, including renewable energy, nanotechnology, sustainable water, and advanced therapeutics and processes for health care. In addition to providing an environment for collaborative research and training along interdisciplinary themes, we provide our graduate students with educational opportunities and resources to enable them to recognize how their research would be used for an economic or societal benefit, as well as hands-on experience enabling them to learn the processes that would be required to complete translation of their research to practice.



FACULTY AREAS OF RESEARCH EXCELLENCE

Bioremediation and Subsurface Processes

Contaminant flow and transport in porous media, carbon dioxide sequestration, degradation of toxic substances in soil and water.

Bioprocess Engineering

Bioconversion of biomass materials, algae bioprocessing.

Biomaterials, Diagnostics and Therapeutics

Biocompatible interfaces and hydrogels, and cryopreservation.

Complex Fluids and Soft Solids

Polymers, rheology (bulk and interfacial), fluid mechanics (Newtonian and non-Newtonian), biofluids, biofilms, composites, gels, foams, and miscible interfaces.

Engineering Education Research

Industrial virtual laboratories, conceptual learning in engineering courses, engineering thinking and learning, and social inequality in engineering education and practice.

Mathematical/Computational Modeling and Simulation

Multi-scale mathematical modeling, statistical mechanics and thermodynamics, electronic structure calculations, machine learning, and molecular simulation in application to engineering problems.

Reaction and Separation Processes

Catalytic materials and microchannel devices for improving the performance of chemical reactions and separations.

Sustainable Energy

Renewable fuels, solar energy, and electrochemical energy systems (batteries, fuel cells).

Thin Films, Nanomaterials, Nanotechnology, and Environmental Nanotoxicology

Materials for electronic devices, solar photovoltaics, nanopatterning, and environmental implications of nanotechnology.

Water Quality and Treatment

Particle removal from drinking water, anaerobic and aerobic wastewater treatment, hazardous waste treatment, stormwater characterization and treatment.

OREGON STATE UNIVERSITY

As Oregon's leading public research university, Oregon State's impact reaches across the state and beyond.

With 11 colleges, 15 Agricultural Experiment Stations, 35 county Extension offices, the Hatfield Marine Science Center in Newport and OSU-Cascades in Bend, Oregon State has a presence in every one of Oregon's 36 counties, with a statewide economic footprint of $2.232 billion.

COLLEGE OF ENGINEERING

As the nation's 11th largest engineering college by undergraduate enrollment, our college endeavors to create solutions that promote strong economies, healthy people, and a sustainable natural environment.

Our program has a long history of producing world-class engineering graduates who make major impacts on civilization through significant contributions in science and technology. Alumni achievements include breakthrough innovations such as the first artificial heart valve, the computer mouse, and the concept of email.

By emphasizing authentic, experiential engineering experiences within our curriculum, we equip students with the knowledge, skills, and passion to advance innovative solutions to today's most complex engineering challenges in an inclusive environment.

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