COLLEGE OF SCIENCE

B.S. in Civil Engineering

According to American Society of Civil Engineers (ASCE) over the next 20 years, California's population is expected to grow by another 25% by over 10 million people. This economic activity and new population require additional supporting infrastructure. Additionally, with recent $1.2 trillion infrastructure bill, it is expected the need for qualified civil engineers will increase, which are already in short supply and high demand.

The Profession

Civil engineering is a discipline of engineering that helps to promote safe, sustainable, and modern societies by planning designing, building, and supervising almost every structure and infrastructure, including but limited in to buildings, roads, dams, bridges, tunnels, waterways and etc. California State University East Bay has started civil engineering program to prepare competent workforce to the industry. The expert faculties and lecturers in different subdisciplines of civil engineering will provide comprehensive and excellent training in different civil engineering subdisciplines and prepare the students to obtain their professional licensure and get connected with industry through their career fairs.

Program Strengths

- A program emphasis on civil infrastructure, reflecting the needs of society and providing strong career opportunities for our graduates.
- Diverse background and expertise of the faculties and lecturers in different sub-disciplines of civil engineering.
- Comprehensive and strong curriculum to prepare students for their licensure and professional career.
- Prioritizing both technical and practical growth of the students through engaging research projects and hands-on learning experiences.

Ideal Students

- Freshman and transfer students who are interested in engineering, fundamentals, creating and designing real world structures.
- Individuals with a vision and interest in contributing to a more equitable and sustainable society through robust infrastructure.

Career Opportunities

- Graduates can assume professional roles such as structural designer, geotechnical engineer, construction manager, and transportation engineer and many more.

Admission Requirements

As part of the University admission process, students are required to take the Mathematics (ELM) and English (EPT) placement tests to determine appropriate class enrollments in mathematics and English. Prospective engineering students should complete high school level math (at least three years, four preferred), chemistry and physics. Courses in computer programming and technical drawing are recommended.

Program Learning Outcomes

Graduates of the program will:

- Possess the expertise and training to engage in critical analysis of civil engineering challenges and effectively apply their knowledge to enhance designs.
- Be able to explore various aspects of civil engineering and pursue a career in a specialized subdiscipline that aligns closely with their interests.
- Have the ability to communicate and work well independently and collaboratively in cross-functional and diverse teams.
- Are recognized as qualified engineers with high technical and ethical integrity, by exhibiting leadership or expertise in a specialized area.

Contact Information

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*The information in this major summary is subject to change. Consult our current online university catalog at **csueastbay.edu/ecat/index.html** for up-to-date requirements. Last Updated 12/05/2018.

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Program Curriculum

Lower Division Requirements (38 units)

CHEM 110	General Chemistry for Engineering
CIVE 206	Engineering Materials and Laboratory
CMGT 201	Surveying
ENGR 200	Introduction to Engineering and Design
ENGR 215	Computational Methods in Engineering
ENGR 220	Statics
MATH 130	Calculus I
MATH 131	Calculus II
MATH 215	Introduction to Linear Algebra
MATH 230	Calculus III
PHYS 135	Physics for Scientists and Engineers I
PHYS 136	Physics for Scientists and Engineers II

Upper Division Requirements (43 units)

CIVE 319	Fluid Mechanics
CIVE 330	Strength of Materials
CIVE 350	Geotechnical Engineering
CIVE 361	Transportation Engineering
CIVE 385	Structural Analysis
CIVE 410	Hydraulics and Water Resources
CIVE 421	Structural Engineering Design
CIVE 430	Environmental Engineering
CIVE 435	Highway and Pavement Design
CIVE 440	Construction Engineering
CIVE 492	Senior Design Project
ENGR 320	Engineering Economics
INDE 330	Engineering Statics and Probability

Electives (3 units)

Three units of electives must be 300 level or above with Department approval from any of the following prefixes: ENGR, CMGT, INDE, or CMPE

CAL STATE EAST BAY
COLLEGE OF SCIENCE
SCHOOL OF ENGINEERING

CALIFORNIA STATE UNIVERSITY, EAST BAY
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