

# Strategic Plan

## 2013-2018



Civil, Environmental, and Architectural Engineering

UNIVERSITY OF COLORADO **BOULDER**



# 2013-2018 Strategic Plan

Setting the stage for excellence in  
civil, environmental, and architectural engineering  
at the University of Colorado Boulder.

## Vision

**The CEAE department aspires to lead in extraordinary education and research for the sustainable development, management, and safety of civil and architectural infrastructure systems — serving society in harmony with our natural resources.**

## Strategic Goals

1. Through innovative curricula and research, educate civil, environmental, and architectural engineers who have the skills, passion, and courage to serve society and tackle the global challenges of the natural and built environment.
2. Advance the state of knowledge and practice in civil, environmental, and architectural engineering through graduate education and research, finding and communicating innovative solutions to challenges in the nation and the world, balanced from the basic to the applied research.

## Objectives

CEAE has specific objectives to achieve our goals through actions relating to

- Our People
- Our Programs
- Our Places

# People

Our students, staff, and faculty are critical to our success.



# Objective 1

Ambitiously seek to increase student enrollment, quality, and diversity.

## IMPERATIVES

- CEAE plans to enroll 50 architectural engineering and 50 civil engineering undergraduate students per year with above-average quality metrics in the college and among its national peers.
- Additionally, CEAE strives to enroll 25 AREN and 50 CVEN graduate students per year. These students should exhibit above-average quality metrics in the college and among peers.
- CEAE is also in the process of attracting a broader, more diverse student population by increasing student scholarships and fellowships by 30 percent.

## ENABLERS

- To achieve a larger, more diverse student population, CEAE is vigorously engaging in high school recruitment efforts.
- CEAE will communicate and promote the fact that students can expect to find an enriching academic experience through internships, interaction with practicing engineers, service learning, and study abroad programs.
- CEAE will continue to actively engage in the University of Colorado's engineering honors programs.
- CEAE is increasing fellowship, research, and teaching assistantship resources for top graduate and undergraduate students.

# Objective 2

Promote academic excellence by hiring faculty with diverse backgrounds.

## IMPERATIVES

- CEAE will hire four additional tenure-track professors and two instructors in an effort to improve research opportunities and the academic experience.
- With the help of the CU Foundation, alumni, and friends, CEAE will seek to endow five additional faculty fellowships, professorships, or chairs.

## ENABLERS

- CEAE is dedicating resources to retaining current faculty and securing additional tenure track faculty and instructor lines.

# Objective 3

Hire additional staff in order to further the strategic mission.

## IMPERATIVES

- CEAE plans to increase staff by 30 percent to support student learning, research excellence, and communications and outreach.

## ENABLERS

- With a higher staff budget, CEAE plans to recruit the best staff members who can support the strategic mission of extraordinary research, education, and service.



# Program

Opportunities for world-class research and enrichment.

# Objective 1

Enroll more top students with diverse backgrounds, making for a richer academic experience.

## IMPERATIVES

- With these diverse, qualified students, CEAE is promoting and developing programs in the spirit of “engineering for a global society.”

## ENABLERS

- CEAE plans to build on the successes of Engineers Without Borders, Bridges to Prosperity, and Habitat for Humanity in order to increase student quantity and quality.
- CEAE will build on the visibility and outreach of the Mortenson Center for Engineering in Developing Communities to multiply the impact of its faculty and student strengths.

# Objective 2

Enhance research with greater activity and funding.

## IMPERATIVES

- In order to improve research efforts, CEAE will establish three new research centers in areas that impact local, state, national, and global needs.

## ENABLERS

- CEAE plans to systematically pursue large collaborative proposals through a standing research committee.
- With a broader funding base, CEAE can improve research efforts. Thus, CEAE is crafting partnerships with state agencies, nongovernmental organizations, and the civil engineering industry.
- Based on CEAE’s funding success, CEAE is building connections with various federal research agencies that align with its mission and vision.

# Objective 3

Improve the student experience by creating innovative enrichment experiences.

## IMPERATIVES

- As part of CEAE, every student will have the opportunity to participate in at least one major enrichment experience, including internships, discovery learning, service learning, or study abroad.

## ENABLERS

- For a more valuable student experience, CEAE anticipates implementing a formal and self-sustaining undergraduate internship program.

# Places

Showcasing CEAE across  
campus and around the world.





# Objective 1

CEAE will broaden its research efforts as it takes on international research and educational collaborations.

## IMPERATIVES

- For improved research, CEAE is establishing and sustaining three international research or education relationships.

## ENABLERS

- By creating formal relationships with universities and a CEAE administrative structure, CEAE is expected to better support an international degree designator.
- CEAE intends to explore new opportunities as it promotes established graduate exchanges in France and Chile.
- CEAE plans to distribute incentives and rewards to faculty members who actively promote internationalization.

# Objective 2

Continuously improve laboratory and instructional facilities.

## IMPERATIVES

- Laboratory space will be expanded by 15 percent to accommodate for teaching and research programs to enhance the overall academic and research experiences.
- CEAE strives to enhance the quality of graduate and undergraduate facilities by working with the college and university to increase the undergraduate classroom space and graduate student research space.

## ENABLERS

- Secure additional funds to fulfill CEAE building and space improvement plans.

# Objective 3

Expand the Residential Academic Program to give students a more valuable educational experience.

## IMPERATIVES

- CEAE will support the existing Sustainable by Design Residential Academic Program by providing faculty resources for new and exciting resident experiences.
- CEAE will develop a second Residential Academic Program to allow students to explore the wide spectrum of topics related to renewable energy and its relationship to the built environment.

## ENABLERS

- Inspired faculty members will be responsible for promoting the second Residential Academic Program.

# Strategic Roadmap

The CEAE department aspires to lead in extraordinary education and research for the sustainable development, management and safety of civil and architectural infrastructure systems — serving society in harmony with our natural resources.

## Enablers and Prerequisites

### PEOPLE

- Engage in high school recruitment efforts.
- Engage in Engineering Honors programs.
- Enrich student academic experience through internships, interaction with practicing engineers, service learning, and study abroad programs.
- Increase fellowship, research, and teaching assistantship resources.
- Retain current faculty and secure additional tenure-track faculty and instructor lines.
- Increase staff budget.

### PROGRAM

- Build on successes of Engineers without Borders and Mortenson Center to increase student quantity and quality.
- Establish a standing research committee to systematically pursue large collaborative proposals.
- Craft partnerships with state agencies, NGOs, and industry to broaden our funding base.
- Build on funding success with federal research agencies.
- Implement a formal and self-sustaining undergraduate internship program.

### PLACES

- Create formal relationships with universities and a CEAE administrative structure to support an international degree designator.
- Procure funding to fulfill CEAE building plans.
- Identify faculty member to champion second Residential Academic Program.



## Strategic Goals and Imperatives

### PEOPLE

### PROGRAM

### PLACES

- Enroll 50 AREN and 50 CVEN undergraduate students per year with above-average quality metrics in the college and among our peers.
- Enroll 25 AREN and 50 CVEN graduate students per year with above-average quality metrics in the college and among our peers.
- Increase student scholarships and fellowships by 30%.
- Increase faculty by four tenure-track professors and two instructors.
- Endow five additional faculty fellowships, professorships, or chairs.
- Increase staff by 30%.
- Promote and develop programs in the spirit of “engineering for a global society.”
- Establish three new research centers in areas that impact local, state, national, and global needs.
- Enable every student to participate in at least one major enrichment experience (internship, discovery learning, service learning, and/or study abroad).
- Establish and sustain three international research and/or education relationships.
- Expand laboratory space for teaching and research programs by 15%.
- Enhance the quality of graduate and undergraduate facilities.
- Develop a second Residential Academic Program.



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