

Development of this plan

In early 2021, Colorado State University leadership began a strategic planning process to guide the university's future. Simultaneously, leaders in the Walter Scott, Jr. College of Engineering recognized the need to update the college's 2020 Strategic Plan.

The coronavirus pandemic, changing demographics and other societal shifts, as well as growing global challenges, necessitated a fresh look at strategy.

Through a series of leadership retreats, analyses of strength, weakness, opportunities, and threats were performed for each of our programs, and through college-wide listening sessions, priorities and goals for the Strategic Plan were established.

This new Strategic Plan situates the college within its rich and accomplished history and asserts the strengths that set it apart. The plan refines the college's vision and affirms its mission against the backdrop of today's challenges; reinforces its core values; and points at critical initiatives needed to achieve shared success.

What is changing?

The world's population is increasing, and an ever-greater fraction of people consume above subsistence level. This transition is needed for human well-being, but it is perilous from a resource and environment perspective.



Many aspects of planetary carrying capacity are being exceeded, resulting in a changing climate, accelerating loss of biodiversity, and increasing pressures on natural resources.

There is an urgent need to find solutions that enhance the lives of more people, more equitably, while also reducing impact, regenerating lost capacity, and strengthening resilience to inevitable changes.





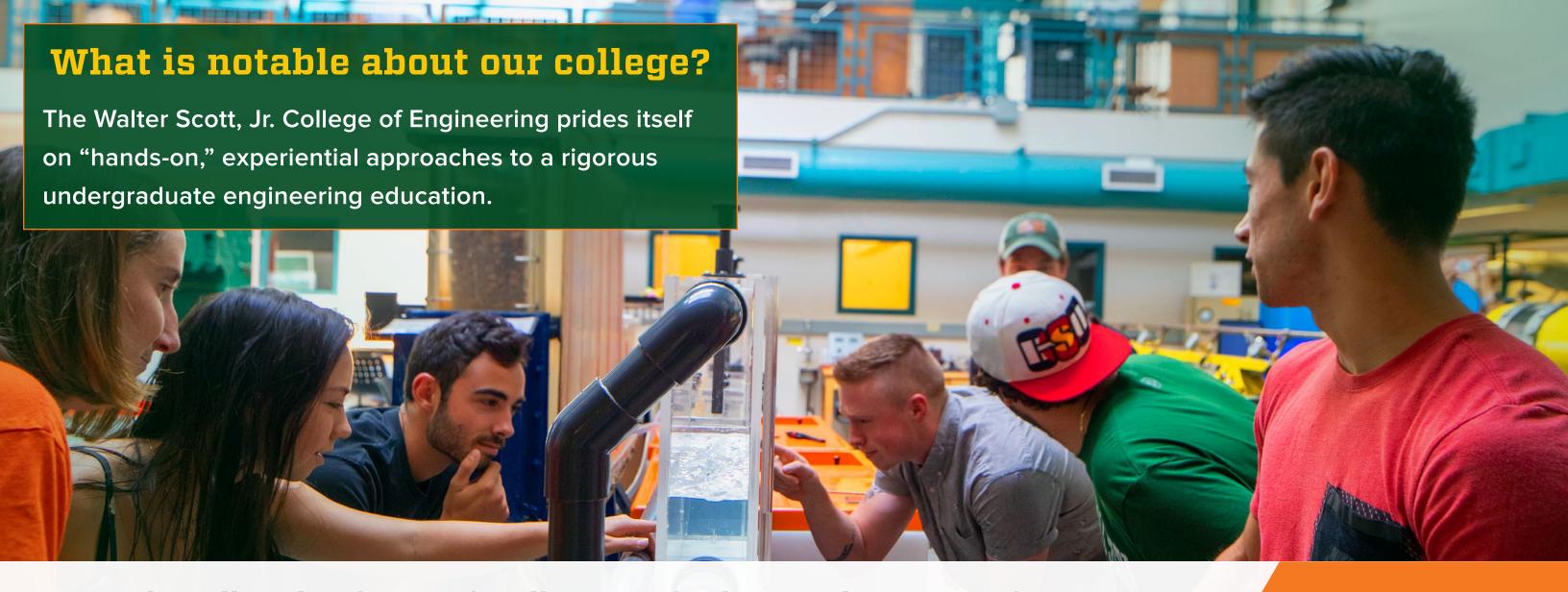
This challenge manifests directly in the **State of Colorado and the Mountain West**, where planetary stresses are exacerbated by rapid population growth and environmental sensitivity.

This confluence of endeavors requires attention to **stewardship of the environment** and adaptation of the technology that drives the modern world to ensure a sustainable future.

Beyond technical challenges, there is a growing public awareness of social stratification and fragmentation. The engineering mission is conducted primarily by individuals who have early access to status and opportunity, and priorities are selected by a somewhat homogeneous culture.

Only continuous and assiduous attention to creating *opportunity for all* will deliver on the university's promise of discourse and the land-grant mission of upward mobility.





The college has internationally recognized research programs in:

Water resources and their interconnections with food and energy • Clean energy and decarbonization Biotechnology • Climate and severe weather studies and prediction • Advanced materials Infrastructure and community resiliency • Air quality • Human and environmental health

These research clusters, combined with a culture that encourages and rewards collaboration, give the College an exceptional position for innovating and addressing many of the complex societal problems we are facing today.

Curricula include extensive laboratory and team-based coursework. The College devotes considerable attention to undergraduate students, including engagement in research and support for those whose academic backgrounds have incompletely prepared them for engineering.

The College, and CSU as a whole, have attracted faculty, staff and graduate students whose interests and ambitions align with the values of stewardship and societal impact.

Mission

Educate, innovate, cultivate, and engage in order to generate knowledge, improve quality of life, and positively impact society



Educate:

Provide an accessible and transformative education that equips engineers and scientists to become leaders with a passion for making a difference in the world



Cultivate:

Foster a community with a culture of purpose and inclusiveness among faculty, staff, students, alumni, donors, and community partners



Shared Values



Innovate:

Confront grand societal challenges and create impact through innovative and collaborative research



Engage:

Create a globally aware community that builds partnerships that intentionally extend beyond campus

Vision

We aspire to be a world leader in engineering education and research, serving society through inclusive excellence, innovation, and inspiration.



Through leadership in education, research, innovation, and engagement, we will tackle some of the biggest challenges and threats that face our region, our nation and the world in fulfillment of the Land Grant mission and the evolving responsibility of a globally integrated university.

Stewardship:

We educate and innovate to sustain planetary health and quality of living.

Collaboration:

We confront complex challenges by integrating knowledge and expertise across disciplines.

Equity:

We are fair and just to ensure that we create access for all members of our community to thrive.

Empathy:

We recognize, support, and respond to differences in abilities and needs.

Innovation:

We are creative and entrepreneurial in pursuit of societal impact.

Integrity:

We hold ourselves to the highest standards of excellence and transparency.

Opportunity:

We provide pathways to personal and professional growth and thriving communities.



Each of these themes is an **Imperative**: a target that the College must fulfill in order to be effective at delivering on its promise.

Each Imperative is supported by **Goals** that will promote its achievement. The Imperatives and Goals serve as a roadmap for focusing investment.

ONE

Educate a motivated and diverse student body who will advance sustainability and quality of living

TWO

Facilitate transdisciplinary research to address global challenges through investment in diverse teams and strategic facilities

THREE

Attract, nurture, and recognize successful educators, researchers, and staff

FOUR

Maximize the benefits of our strengths, leadership, and innovative work by communicating effectively and enhancing engagement



The College is a world leader in sustainability, human and environmental health, well-being, and the use of technology to make the world a better place for all. Our hands-on, practical approach to learning dovetails with the land-grant mission of making positive contributions to communities and to the region as a whole. Teaching, curriculum structure, and mentoring in the College will evolve so that students see their relevance to and role in addressing global challenges, develop their full potential to contribute in the workplace and in society, and recognize the integral role of engineering in achieving social progress and justice.

As a land-grant university that provides leadership for creation of our state's and nation's future workforce, and recognizing the benefits of diversity, we have a mission to make higher education accessible and engaging for all students. Supporting and maintaining a diverse student body requires that we acknowledge the many pathways that lead into and through undergraduate and graduate programs.

The College aspires to increase recruitment and retention of all students. Examples of targeted programs include support for individuals driven to make practical contributions to society; international students; first-generation students; students from under-resourced communities; and students with minoritized identities. We will recognize and support students whose backgrounds did not offer preparation for immediate entry into engineering curricula.

Goal 1:

Improve undergraduate recruiting and retention within engineering, considering the specific needs of international students, students of limited income, first-generation students, and students from underserved groups

Goal 2:

Foster an environment of studentcentered learning, wellness, leadership, and engagement

Goal 3:

Motivate today's students and address industry needs by refreshing curricula and teaching facilities to emphasize societally relevant topics, including sustainability and social and environmental justice; to follow evidence-based pedagogical techniques; and to blend virtual instruction with hands-on learning

Goal 4:

Attract and develop the graduate student body that plays critical roles in the research enterprise and in societal leadership by attending to diversity, satisfaction, retention, and relevant curriculum offerings



Identifying and implementing solutions to emergent global challenges to sustainability and quality of living will require diverse, high-performing teams that transcend disciplinary boundaries. CSU and the College have been leaders in interdisciplinary work; transdisciplinary research includes stakeholders beyond academia, integrating diverse perspectives and disciplines beginning with problem definition, and creating new fields of scientific inquiry.

Transdisciplinary research requires both researchers with disciplinary strength, and development of individuals to communicate and contribute meaningfully as part of teams. However, some shortcomings in resources and support have limited researchers' ability to respond to complex challenges, and have hampered recruitment and retention of talent. Some signature research programs currently lack critical mass of faculty and research staff.

Much of the College's current physical infrastructure is outdated, inadequate, or not suitable for current and future-oriented themes. The institution's structure and governance have not yet fully developed to facilitate, support, and reward transdisciplinary work. To maximize the impacts of investments, we must cultivate a robust culture of sharing of facilities and talent, wherein both collaboration and risk-taking are rewarded.

Goal 1:

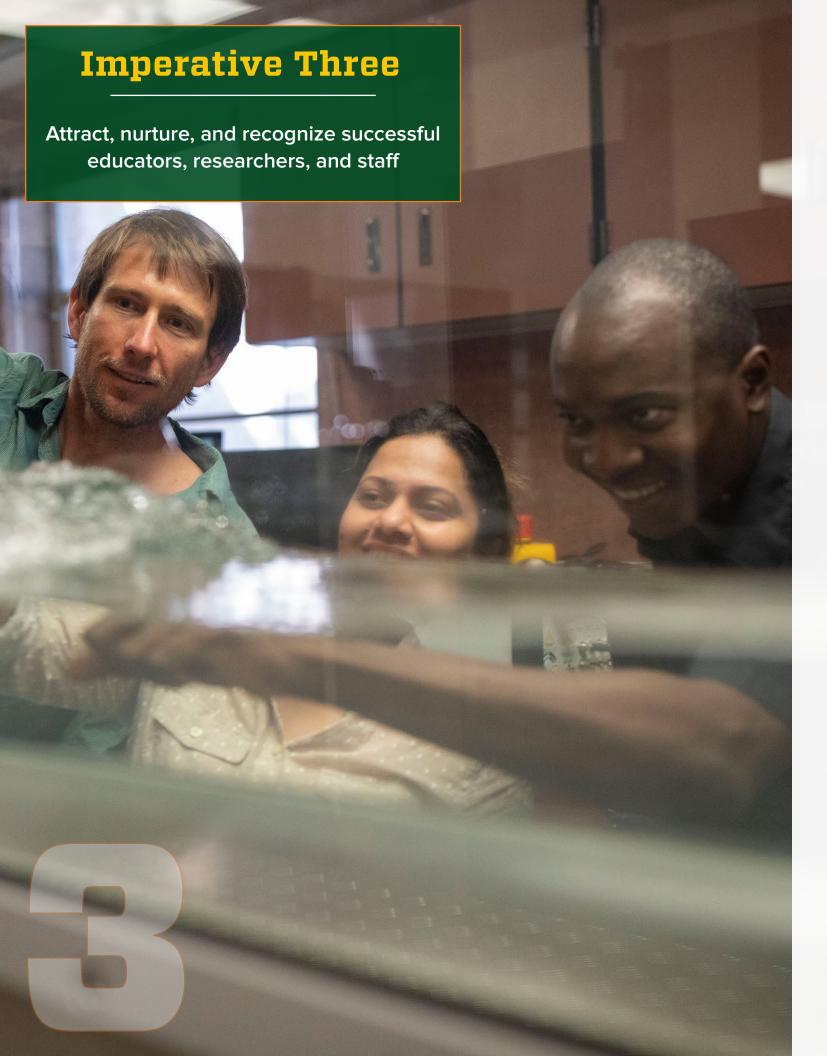
Position the College for leadership in interdisciplinary and transdisciplinary research by enhancing support for collaborations, sharing expertise, developing complex proposals, and conducting large and complex projects

Goal 2:

Enable competitive advantages in programmatic growth, transdisciplinary collaboration, research, recruiting, and retention by providing, integrating, maintaining, and continuously updating cutting-edge College physical infrastructure across all facilities

Goal 3:

Incentivize growth of signature research programs aimed at solutions to state, regional, national, and global grand challenges



The success of an institution is rooted in its people, and the values of an institution must be exemplified in its operation.

To build a community where everyone thrives, all staff and faculty must have training, mentoring, and opportunity for advancement. They must have latitude to do what they are best at and to grow professionally, whether in effective teaching, student mentoring, innovative research, reliable and streamlined operations, or institutional transformation.

The racial, ethnic, and gender diversity of staff and faculty must also increase, so that it reflects the growing diversity of our student body and our state, and so that our work benefits from the strengths of diverse viewpoints.

The College aspires to be an employer-of-choice across Northern Colorado, where equity and job satisfaction are paramount.

Goal 1:

Build community and inclusion across the College, and enhance diversity of staff and faculty

Goal 2:

Ensure that staff and faculty are successful and thriving, and can put their skills to best use in advancing the College's Imperatives, by aligning expectations with incentives and growth opportunities

Goal 3:

Create a culture and associated processes for streamlined resource sharing, integration, on-boarding and cross-training within the College and across the university



The College's education and research activities contribute to economic and workforce development, and to societal progress, enhancing many facets of sustainability and quality of living. We pride ourselves on entrepreneurial spirit and our ability to create opportunities for individuals and institutions to better themselves and society.

To maximize the value of our work, however, we must communicate our contributions to society through collective, consistent means, both internally and externally. The breadth of our work and the diversity of our audiences represent both a challenge and an opportunity.

The College needs clear, focused messaging that embodies its mission, vision, and values. This messaging should emphasize the strengths that differentiate us from our peers and highlight the critical role of the College at CSU.

Shared messaging can focus and unite our work across the college, attracting enrollments, promoting collective value that garners attention and resources, retaining talent, and driving resource allocations and investment decisions.

Goal 1:

Identify the College brand and differentiators, incorporating tenets from our mission, vision, and values, and use these to focus internal and external communication strategies

Goal 2:

Incentivize and support engagement efforts of faculty, staff and students to bring the benefits of teaching, research and service to communities, the State, the nation, and the world







